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ABSTRACT

The following education-related papers are among the 91 papers included in these proceedings: (1) "Recent Trends in the Historiography of Consumption" (Pope); (2) "Thinking Critically in the Teaching of Consumer Issues" (Copa, Schuler); (3) "Recent Research in Consumer Education Utilizing Innovative Methodologies" (Hall); (4) "Justice and Consumer Education" (Peterson); (5) "Research in Consumer Education" (Vosburgh); (6) "Financial Management: Application for the Classroom" (Whan et al.); (7) "Inservice Education for Community Workers" (Prochaska-Cue); (8) "Status Report and Future Directions for the National Coalition for Consumer Education" (Knapp); (9) "Identifying Important Research Questions in the Consumer Interest" (Maynes); (10) "Dealing with Budgets for Consumer Education" (Schuchardt); (11) "Establishment of a National Clearinghouse on Elder Abuse and Neglect" (Stein); (12) "Advertising as Misinformation" (Maynes, Lino); and (13) "Are Consumers' Learning and Decision Making Related Phenomena?" (Sproles, Sproles). (MN)

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33rd Annual Conference
April 1-4, 1987
Denver, Colorado
THE PROCEEDINGS
Vickie Hampton
Editor

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PROCEEDINGS

33rd Annual Conference

of the

AMERICAN COUNCIL ON CONSUMER INTERESTS

April 1-4, 1987
Denver, Colorado

Edited by

Vickie L. Hampton
The University of Texas at Austin
Austin, Texas

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PROGRAM

AMERICAN COUNCIL ON CONSUMER INTERESTS
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FROM THE EDITOR

The 33rd Annual Conference of the American Council on Consumer Interests brought together professionals from across the nation and from abroad to participate in presentations and discussions relating to the consumer. Again this year the conference had no theme; therefore, a wide variety of papers including issues in consumer research, financial planning, financial services, consumer information, consumers and the mass media, consumer law, consumer safety, and consumerism in other nations were presented. The conference was opened with an informative paper by Arlene R. Malech entitled "The Changing Complaint Handling Environment: Implications for the Consumer."

All speakers on the annual conference program were invited to submit camera-ready manuscripts typed according to Proceedings specifications for inclusion in this publication. The cooperation of the presenters and their support staffs have been truly excellent and is greatly appreciated.

The program co-chairs, John R. Burton and Robert N. Mayer, are to be commended for their efforts which brought together this informative and stimulating program. Appreciation is also extended to the speakers, manuscript reviewers, and the members of the local arrangements committee. Special appreciation is extended to Linde Soderquist and Charlotte Schkade for their technical assistance in the preparation of the Proceedings.

Vickie L. Hampton
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THE CHANGING COMPLAINT HANDLING ENVIRONMENT: IMPLICATIONS FOR THE CONSUMER

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ABSTRACT

During the 1970's, public and private sector organizations have become more responsive to consumers' needs. Many businesses have realized that "complaints are the key to sales." Forward looking organizations have adopted innovative complaint handling practices that characterize the current state-of-the-art. The next decade should see further improvements.

INTRODUCTION

Good morning. It's a pleasure for me to be here today and to share with you TARP's view of the changing complaint handling environment and the implications of those changes for the consumer. The focus of my remarks today will be the "Complaint Handling in America Update Study" which TARP completed in 1986 for the United States Office of Consumer Affairs [1]. We'll look at some of the key findings from that study, highlight several of the innovative techniques which characterize the current state-of-the-art of complaint handling, consider what this means for the consumer, and take a brief look at complaint handling in the 1990's and beyond. However, before getting into the substance of today's presentation, I'd like to take a couple of minutes to tell you about TARP -- who we are and what we do.

TARP is a Washington, D.C. based management consulting firm that has been in business since 1971. The company was founded by John Goodman and Marc Grainer when they were graduate students at Harvard. In its early years, TARP's efforts were largely concentrated in doing government contract work, particularly as it related to poverty programs.

In 1975, TARP was awarded a contract by the then White House Office of Consumer Affairs to conduct a study of consumer complaint handling in America [2]. This study considered complaint handling through all aspects of both the private and public sectors and included a national consumer survey. That study, which was completed in 1979, changed the direction of TARP.

Since that time, TARP's emphasis has been on aiding private sector companies in improving their complaint handling service to the consumer. We have worked with organizations as diverse as American Express, AT&T, General Motors, Brooklyn Union Gas Company, Marriott, Southland, AARP, and the Consumer Federation of America.

TARP is a small organization. We are a staff of 12 full-time professionals. We have been told that we are the only management consulting firm in the country whose focus is strictly in the area of customer service -- both in delivering quality service the first time and in effectively handling consumer complaints when problems arise. We offer assistance that includes assessing the effectiveness of an existing complaint handling system, helping an organization establish an effective 800 number customer response unit, quantifying the market implications of existing levels of service, establishing measurement systems to track customer satisfaction on an ongoing basis, and training personnel in direct customer contact roles in practically based techniques for defusing the anger of an unhappy customer.

Now, for the actual substance of my remarks to you today. In its entirety, the "Complaint Handling in America Update Study" contains:

- a survey of the complaint handling practices used by the business community;
- a survey of the complaint handling practices of state and local governments and private voluntary agencies;
- a detailed literature review focused on recent studies dealing with whether it pays to handle complaints;
- profiles of selected organizations whose complaint handling practices highlight the state-of-the-art; and
- an assessment of complaint handling practices within the federal government.

However, before considering the key findings from that study, we need to take a brief look at the business environment as it currently exists. That environment allows us to put the study's findings into the proper perspective.

What we see is that industry today is in transition. We are moving from a time when market conditions were fairly stable and technology was not changing rapidly to a time when market conditions have destabilized -- there is increasing competition in every industry -- and technology is changing so rapidly that it is difficult to keep up with the latest innovations. What this means is, over the long term, most corporations will never again have a competitive advantage in either product or price.

Let's take a brief look at an example of what I mean. Ten years ago, long distance and local telephone service was basically available from one or two major suppliers. Then things began to change and alternative long distance telephone service became available from a myriad of suppliers. Several of those companies no longer provide such long distance service. They were unable to sustain a competitive advantage in either product or price and certainly were not differentiating themselves from other suppliers based on service quality. They either merged with other companies or went totally out of the long distance telephone business.

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[1] Vice President

In the not too distant future, both consumers and business will probably also have a choice in the provider of local dial tone service. That will serve to make an already chaotic environment even more chaotic. I would imagine that we'll see some of the existing companies unable to compete in this more competitive environment. It would also not surprise me to see new companies enter the marketplace.

When I took my first graduate statistics course, my father paid a hundred dollars for a calculator that had the four basic functions, one memory, and did squares and square roots. Now for about a quarter of that cost, there are at least 25 or 30 different calculators that seem to do almost everything but slice bread.

If a competitive advantage in product or price is not attainable, then there is a need for companies to create a sustainable competitive advantage in other areas, such as quality products and service, if they are to survive.

Think about personal computers. I don't know about you, but I don't have the background to fully understand how one is different from another. Moreover, the prices on what appear to be similar pieces of equipment give me no clue as to which one is a better buy. I make my decision based on either the reputation of the company as a provider of quality products and service or on the recommendation of friends I consider knowledgeable about computers.

How can a company survive in this atmosphere? Does it have to virtually give away its products and services in order to maintain a competitive edge? Well, I think not.

The solution to the dilemma is really quite simple. In order to survive and succeed, a corporation needs to make a total commitment to:

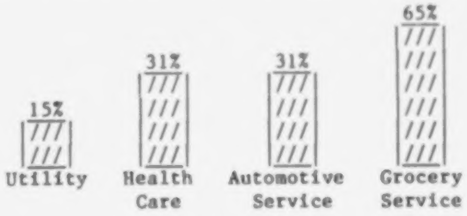
- identifying and satisfying the needs and expectations of consumers better than the competition;
- taking exceptional care of customers through superior and consistent service and product quality;
- being open to innovation and new ideas throughout the organization; and
- providing compensation and incentives that ensure highly motivated personnel who exhibit a desire to win and an exceptional degree of of teamwork.

These are the characteristics of the company that will survive and grow throughout the next decade and beyond.

Complaints Are the Key to Sales

The findings from the "Update Study's Literature Review" tell us that a substantial segment of American consumers experience problems with the products and services they purchase (Figure 1).

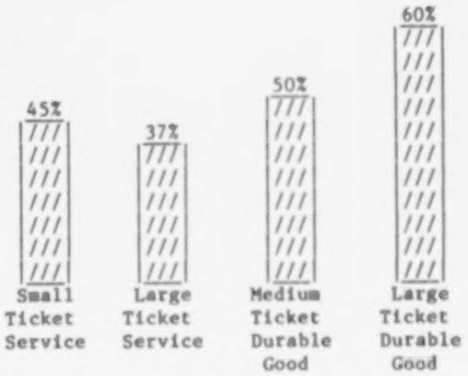
FIGURE 1. Percentage of Consumers Experiencing Problems with Selected Product/Service



Source: TARP Industry Specific Data

It also tells us, that regardless of the industry, many consumers who experience problems do not complain (Figure 2).

FIGURE 2. Percentage of Consumers Experiencing Problems with Selected Product/Service Who Did Not Complain



Source: TARP Industry Specific Data

We have seen several instances of this. First, a company inadvertently produced a defective ladies garment. The defect was such that the garment tore the first time it was worn. The company knew how many of the defective garments had been manufactured and shipped. What they discovered was that the ratio of complaints to defective garments was one to 2,000.

Also, are you aware that the New York City subway system gets fewer complaints per passenger mile than any other mass transit system in the country? I seriously doubt that it's because they provide such wonderful service. I think it's more likely because people are happy just to have survived the trip!

If you don't believe me, think about your own experience as a consumer. How many times have you complained about a mediocre meal or bad service in a restaurant. If you're like I am, when the waiter or waitress asked if everything was all right, you nodded your head and indicated it was. How many times have you complained about long lines in a department store, grocery store, or bank? I would tend to think rarely, if at all.

Consumers consistently relate three primary reasons why they don't complain when they experience problems:

- complaining wasn't worth their time and trouble;
- they didn't know how or where to complain; and
- they believed that complaining wouldn't do any good.

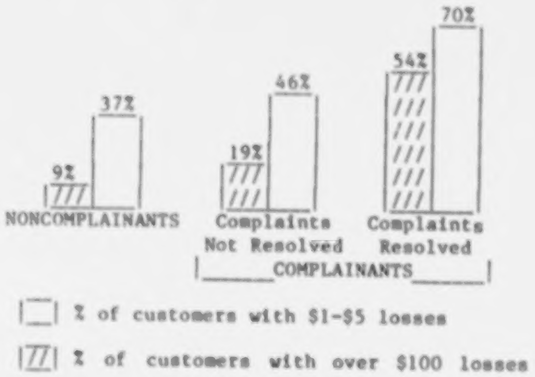
This latter reason is most disturbing for the business community because it shows consumer pessimism about businesses' ability to stand behind the products and services that are being sold today.

Why should businesses care about the problems customers experience and their subsequent complaint behavior? Well, unfortunately, many corporate executives don't care. They adopt an attitude that no news is good news or that those customers who complain are wild eyed nuts that have gone straight to the top.

A major financial services company found that only about 15 percent of its executive complaints were from customers who had gone straight to the top. In fact, the majority of executive level complainants had tried an average of six times to work their way through the system before escalating.

By examining the findings from the "Literature Review," we also find that there is a strong relationship between complaining and brand loyalty. What this means is, if a company can get a customer who experiences a problem to complain, and can satisfy that customer, a substantial number of those customers can be retained. In fact, we find that even if the customer is not satisfied with the way the company handled the problem, there is usually more willingness to repurchase the product or service than if the customer had not complained at all (Figure 3). Thus, the mere existence of the complaint handling system can result in incremental brand loyalty and increased sales. This is true whether one is dealing with a small ticket item such as a hair dryer or a large ticket item such as a major appliance or an automobile.

FIGURE 3. How Many of Your Unhappy Customers Will Buy From You Again?



Source: "National Consumer Survey"

The impact of customer problem experience and complaining behavior becomes even more visible when one realizes that the impact on loyalty is not just related to repurchase of the same product. A customer's experience with one product or service provided by a company also impacts his or her willingness to purchase other products or services provided by and identified with that company. This is true whether one is dealing with a soft drink, a bottle of aspirin, or an automobile.

The impact of problem experience and complaint behavior on consumers' future purchasing patterns is compounded by a phenomenon called word of mouth. People talk to each other about their good and bad experiences. Moreover, there is twice as much negative word of mouth generated by a dissatisfied customer than there is positive word of mouth generated by a satisfied customer. Coupled with research that has been conducted which shows that the opinions of friends are by far the most important factor in a consumer's prepurchase decision, one quickly realizes the market damage that can be caused by word of mouth. Thus, a large number of customer problems in a small area of a company's business can be as harmful, if not more so, than problems in the company's major product line.

Furthermore, many organizations view complaint handling activities as a corporate liability -- they require an expenditure of resources to operate without returning anything to the company. To put it bluntly, this is simply not true. By effectively soliciting and dealing with consumers' complaints, the corporate complaint handling department can not only pay for itself, it can generate profits which contribute to the company's bottom line (Table 1). In short, it pays to invest the resources required to establish an effective complaint handling system.

TABLE 1. Return on Investment by Corporate Complaint Handling Units

Industry	ROI
Package Goods	15% - 75%
Financial Services	50% - 170%
Gas Utilities	20% - 150%
Consumer Durable Goods	100% +
Electronic Products	50%
Retailing	35% - 400%
Automotive Service	100% +

Source: TARP Industry Specific Data

Unfortunately, many businesses today are not maximizing the benefits they could derive from effective complaint handling systems. Many consumers remain dissatisfied with businesses response to their complaint.

Thus, corporate executives who believe that complainants are wild eyed nuts who have gone straight to the top are missing a major marketing opportunity. So are the executives who pay lip service to the value of complaint handling without being willing to commit the resources necessary to have an effective complaint handling system.

INNOVATIVE COMPLAINT HANDLING PRACTICES

There are a number of organizations which have adopted innovative complaint handling techniques which typify the current state-of-the-art. These are:

- customer assistance 800 numbers;
- quantifying the market impact of current levels of service;
- complaint handling software;
- retail outlet complaint handling programs;
- satisfaction tracking systems;
- defusion of anger training;
- preventive analysis; and
- customer satisfaction core groups.

Satisfaction Tracking

The primary purposes of satisfaction tracking systems are to enable a company to monitor: (1) its ability to deliver products and services in a manner that meets customer needs and expectations, and (2) the ability of complaint handling policies and procedures to satisfy customers who encounter problems and request assistance.

There are six characteristics of an effective customer or complainant satisfaction tracking system. The first is that the system must be transaction based. Very simply, this means that to conduct ongoing measurement of customers who have not dealt with you provides very little in the way of actionable data. Customers typically love you until they have to deal with you. It is when the customer has a transaction with you that you have the opportunity of turning satisfaction into dissatisfaction.

Think about it. If you're anything like I am, your health insurance provider is fine until you have to file a claim, your car dealer is fine until your car needs repairs, and the local department store is fine until you have to return something. It is the customer's satisfaction with those types of experiences that has to be monitored.

The second characteristic is that the system needs to be easy and cost effective to implement. No organization has unlimited resources. Therefore, the implementation of a tracking system cannot require a substantial resource commitment. The answer is to use a low cost postcard questionnaire which is either preprinted or computer generated with computerized sampling, addressing, precoding, and automated report generation.

The short postcard survey also serves to meet the third criterion of an effective tracking system -- requiring a minimal response burden on the part of the recipient. The four or five questions which can be included on a card take only a couple of minutes for the customer to answer. Of course, this also means that the questions have to be carefully selected so the necessary information can be obtained.

It is important that the tracking system enable you to rank the performance of certain groups or individuals within the organization. For instance, a complainant satisfaction tracking system should enable you to rank the performance of customer service representatives, individually and by operational groups. If you are an automotive manufacturer, for example, the system should enable you to also rank the performance of zones, areas, and/or dealerships. If you are a utility, you should be able to rank the performance of field service offices.

If you are working with a customer satisfaction tracking system, you might want to rank the performance of sales offices, repair facilities, order taking personnel, etc. Such a ranking will enable you to monitor the organization's ability to deliver products and services right the first time.

The ranking we are discussing here is an index which is constructed from two items on the questionnaire. Basically, these are a measure of satisfaction and a measure of repurchase intention. This is a 0-100 point scale with each of the aforementioned questions weighted equally.

Including a measure of repurchase intention, either in terms of buying the same product, buying other products or services, or recommending the product or service to a friend or associate is a necessary component of the tracking system. We know, for example, that a satisfied customer will be more likely to repurchase than a dissatisfied customer. However, the correlation is not perfect. Therefore, both components need to be included in order to obtain the most accurate measure of the impact of the transaction on the customer's future buying habits. And, that is the most important consideration in the long run.

Fifth, an effective tracking system must provide managers with actionable information in a timely manner. There are typically flaws in many of the measurement systems in use today. The results contain all kinds of things that are nice to know, but they are not actionable. For example, if the results indicate that the customer is not satisfied, very few of the systems give a manager any indication of what is causing the customer's dissatisfaction.

With an effective tracking system, this problem can be solved. By identifying and including key attributes of service on the questionnaire, a manager can pinpoint customer perceived weaknesses in the service delivery system. The diagnostic report provides a manager with easily reviewed data on the attribute ratings. Also, because the report shows changes over time, the the manager has the information necessary to determine if corrective actions have been effective.

Additionally, the results from most tracking systems are not available in a timely manner. For a tracking system to have the greatest utility, results must be available almost instantaneously, before additional market damage can be incurred. A lot of what is out there involves such things as a survey conducted in September with results available in December or January. Some companies try to get around this problem by using a telephone survey. However, this tends to violate the "cost effective" criterion.

Finally, the system must support "management by exception," allowing an organization to target its limited resources to those areas where they can have the greatest impact. The performance ranking and diagnostic data from the attributes included in the questionnaire support "management by exception." They allow a company to expend its resources in those areas where there are problems, rather than wasting time and effort in tending to "nonproblems." Not only does this effectively use existing resources, it also improves the overall ability of the company to satisfy the customer, as performance of the individuals and/or groups whose ratings are low improves over time.

Defusion of Anger Training

The second innovation indicative of the current state-of-the-art of complaint handling involves providing personnel in direct customer contact roles with defusion of anger training. This type of training provides personnel with practically based skills in how to lower the anger level of an unhappy customer to the point where the customer can be dealt with on a rational, rather than an emotional, basis. This is an area, I might add, where the training programs of most organizations are lacking.

Organizations use a "Jack Webb" approach to complaint handling. Representatives are trained to first capture the customer's name, address, or other identifying information such as account number. This is in order to access some existing records or begin to complete a "computer screen." Unfortunately, a customer who is really angry does not want to be interrupted to provide this information; often the customer's anger level will increase when this happens. The end result is a madder customer and a customer service representative who has a more difficult situation on his or her hands.

Complainants cannot be helped until their anger is defused. Thus, even such things as requiring a representative to complete a contact in a cercertain amount of time, can serve to further infuriate a customer. The customer must be given time to ventilate, and the representative has to be trained in how to facilitate that process while still obtaining the needed information.

Once the customer's anger level has been brought down, the representative must be given a logical process for actually dealing with the problem. The training should include techniques in how to obtain the information as well as limited negotiation skills. When these two things are coupled in a consistent training program, the result will be increased complainant satisfaction and repurchase intention. Another benefit will be reduced turnover of customer service representatives and more dedicated personnel.

Quantifying Market Damage

The third state-of-the-art innovation deals with quantifying the market implications of current performance. Several of the more forward looking companies are beginning to quantify the market damage which results from customers' problem experience and existing service levels. This enables them to determine how many sales are being lost because existing customers experience problems and to combine this calculation with an estimate of the sales being lost because the customer service system is not as effective as it could be.

These organizations are then able to do a cost/benefit calculation regarding the potential value of making changes to either the product or the customer service delivery system. The cost of making the change can be balanced against the sales that would be retained if the change were made. In this way, the organization is able to make educated determinations regarding the most effective way to increase customer satisfaction and enhance market share.

Customer Satisfaction Core Group

The final innovation that we'll consider today is the customer satisfaction core group. This is a group of four or five individuals of senior middle management grade drawn from all segments of the organization. These are people who are senior enough to have their opinions matter yet not so senior that they cannot devote the necessary time to core group activities. At least one skeptic about the value of customer service should be included in the group. The final member of the group should be a full-time executive director.

Use of a core group is a long-term process designed to change the corporate culture from being company driven to being customer driven. It is this group that conducts or commissions the investigatory work that needs to be done to determine where the company is now. It is this group that puts together a strategy for moving the organization forward in being more responsive to customers. It is this group that monitors the organization's ability to meet the goals of the strategy which is approved by management.

THE PAST AND THE FUTURE

What does all of this mean for consumers? Very simply, it means that despite commentaries such as the one that recently appeared in Time and decried the quality of service in America, major corporations are continuing in their efforts to be more responsive to the needs of customers.

More and more companies are using customer service 800 numbers in order to be more accessible. The survey of more than 600 businesses conducted as a part of the "Update Study" showed that 42 percent of the respondents that served a regional or national market were using complaint handling 800 numbers. In fact, 25 percent of the state and local government or private voluntary agency respondents had also adopted a toll-free telephone mechanism for handling complaints.

Companies are realizing the value of using complaint data preventively -- of looking at the problems customers are complaining about and trying to correct the root cause of the problem and eliminate it. Let's look at a couple of examples of how complaint data can be used to corporate advantage.

Did you know that the Polaroid SX-70 camera was conceived because of complaints? Polaroid had received many complaints that the film was tearing as customers pulled it out of the old hand cameras. They also received complaints that these cameras simply didn't work. These complaints were caused because consumers didn't realize that the camera contained batteries that had to be changed. Thus the birth of the SX-70: the film automatically ejected after the picture was taken and each film pack contained batteries. The root cause of the complaints had been eliminated.

Another good example of using complaint data preventively is provided by Armstrong World Industries, the manufacturers of Solarian®. Armstrong received a number of complaints that its Solarian® floors were not holding up under normal use. They realized that this was because customers were not properly caring for these no-wax floors, either because they weren't being given instruction booklets by the installers or they weren't reading them. They now print an 800 number in big black letters every three feet on the top side of the floor. This triggers the standard phone call. "I love my new floor, but the 800 number doesn't go with my decor." The customer is then told that the 800 number can be removed with warm water and soap. While on the phone, the customer is given instructions on how to care for the new floor. This has virtually eliminated complaints about Solarian® wearability.

The final example of using complaint data preventively comes from a recent experience of mine. I had purchased some bedding which I was financing on a "90 days same as cash" basis. Within two hours of when the bedding was delivered, I received a call from the finance company asking if the merchandise had been delivered and if everything was satisfactory to me. When I questioned the gentleman, he told me that they had been having problems because customers who were not satisfied with the merchandise they had purchased tended not to pay their bills. This meant that the finance company was left "holding the bag" because the retailer was not able to satisfactorily service the consumer. Therefore, they had adopted a policy of calling the consumer to be sure everything was satisfactory before they paid the retailer. This policy had reduced their "slow pay" or "no pay" problem by more than half.

Companies are beginning to provide personnel in direct customer contact roles with the kinds of training needed to make them most effective in dealing with the customer. About 70 percent of the business survey respondents indicated providing customer contact personnel with some type of communications skills training. Companies as diverse as Armstrong World Industries, Coors, and General Motors have provided customer contact personnel with specific skills training in how to defuse the anger of an unhappy customer.

An increasing number of businesses are implementing satisfaction tracking systems. These are being used to monitor the ability of field based organizations to meet customer needs and to monitor the effectiveness of complaint handling policies and procedures.

In general, the findings from the business survey indicate that there have been significant improvements in complaint handling practices since the original USOCA study in the 1970's. Businesses have increased complaint handling professionalism during the 1980's.

Please don't misunderstand. The situation is better, but it's still not perfect. And progress is not necessarily as rapid as many consumers or consumer interest groups would like to see. But, we can find some degree of encouragement in the fact that progress is being made. Most businesses have finally realized that it is in their best interests to try to resolve the customer's problem before a third-party such as an attorney, a Better Business Bureau, or a regulatory agency becomes involved. In fact, less than 10 percent of the complaint volume handled by business survey respondents came from such third-parties.

However, at the same time, companies have also realized that there are times when they have to say "NO" to the customer because of an unreasonable demand. No one is going to "give away the store" and give every complaining customer what he or she wants, regardless of the cost, when the request is unreasonable. Thus, the customer who wants a transmission replaced at 90,000 miles is going to be told "NO" as is the utility user who demands compensation for time lost from work because the repair person was late. And, I might add, business is perfectly justified in refusing to meet unreasonable customer demands.

I can't resist the opportunity of adding a personal note to what I've been saying. Yes, business has an obligation to be responsive to consumers. But the consumer has an obligation too. That obligation is to complain when a problem occurs; not simply sit back, do nothing, and sigh that they don't make things the way they used to. Not only should the consumer take the initiative and contact the company, but the consumer should also be persistent in his or her attempts. A busy phone line is not an excuse for not complaining -- keep trying. If the initial point of contact is nonresponsive, escalate. And, if the company remains nonresponsive, buy elsewhere. There are options for virtually every product or service. A nonresponsive company will not change unless sales go down -- things will not get better unless consumers actively use the power of the purchase.

Additionally, consumers have an obligation to be reasonable in the demands they make of business. Wanting a business to cover warranty repairs is reasonable -- wanting a five year old washing machine replaced is not. Wanting improperly made repairs corrected is reasonable -- demanding a new vehicle is not. Consumer groups have an obligation to not only try to get business to be more responsive to consumers but also to educate consumers on the value of complaining and how to complain.

Consumer groups should work with third-party complaint handlers to ensure that no assistance is provided to a consumer who has not first requested assistance from the offending company and exhausted all internal channels. Most third-party complaint handlers are working with limited resources. In order to maximize these resources, they need to avoid unnecessary contacts and focus on those instances where they are "the court of last resort."

What does the future hold in store? Well, unfortunately, I'm not a fortune teller or a psychic, so I can't be positive. But, I think that over the next decade and beyond, we will continue to see the good companies moving toward being more responsive to consumer needs. If consumers exercise their prerogative to switch brands, the bad companies will either "get religion" or fall by the wayside. Thus, over time, the entire system will be upgraded.

I think that we will see an increasing proliferation of customer service 800 numbers as companies attempt to become more accessible to consumers. I think it will become the norm rather than the exception for the consumer to receive a brief questionnaire asking about his or her satisfaction with a particular transaction. I hope that the typical situation will see a consumer who experiences a problem complaining. I'd love to see the time when third-party complaint handlers go out of business; but, realistically, I don't think that will happen in your lifetime or mine.

However, I do think we can continue to be hopeful. Businesses want to survive and grow. The realization is spreading that, in order to do so, business has to deliver more than a quality product at a competitive price. The forward looking companies have already realized that, in an increasingly competitive marketplace, quality service may provide the only viable means of brand differentiation. Thus, they have begun to install effective complaint handling systems to deal with those instances when problems do occur.

Considerable progress in being more responsive to consumer needs has been made over the past decade. The future is up to us. We need to continue our efforts to enhance businesses' responsiveness to consumer needs. We need to complain when we encounter a problem. We need to educate friends and associates about the value of complaining when they encounter problems. We can't allow ourselves the luxury of becoming frustrated at what seems to be slow progress or no progress. We've laid a cornerstone that seems firm and solid. We need to forge a superstructure that is just as solid. The experiences of the past decade give us hope. It is up to us to transform today's hope into tomorrow's reality.

REFERENCES

1. TARP, Consumer Complaint Handling in America: An Update Study, Parts I, II, and III. Washington, D.C.: U.S. Office of Consumer Affairs, 1986.

2. TARP, Consumer Complaint Handling in America: Final Report. Washington, D.C.: U.S. Office of Consumer Affairs, 1979.

ADVERTISING EXPERTISE AND THE DECLINE OF THE "TRICKLE DOWN" THEORY

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ABSTRACT

As advertising agents first pursued and then abandoned their aspirations toward a genteel professionalism in the 1920s, they gradually shed all vestiges of Victorian paternalism in their view of mass consumers. In the process, they acknowledged, with some dismay, that a new "consumer society" had emerged in which all consumers, not just women, were conveniently but deplorably "feminine."

INTRODUCTION

One of the benefits of adopting an historical perspective toward any subject of current relevance is that it can help distinguish those aspects of present outlook and practice that are significantly new from those which represent the repetition of old clichés. To what extent are present discourses between advertisers and consumers simply the ritual daily reenactments of earlier commercial conversations in which the social relationships and mutual perceptions of speakers and listeners have remained unchanged?

Certainly some patterns of advertising appeal have been remarkably persistent. In one of my classes I assign a writing exercise based on the evidence of 1920s visual documents, including advertisements. The initial response of nearly all students is that of instant recognition. Over sixty years, they remark, many of the appeals and stereotyped figures seem hardly to have changed.

But striking differences also exist, many of which seem evident and inescapable once the similarity of appeals has been acknowledged. For instance, the length of written text in 1920s and 1930s advertisements will puzzle anyone habituated to current advertising. "Did they really expect people to stop and read all of that?" The power of visual imagery was becoming increasingly evident in the 1920s and 1930s, but only a few advertisers were yet prepared to abandon a back-up selling message in an extended text. Yes, they did expect people to find time to read the "fine print," once a striking illustration had captured their attention.

Another clear distinction between contemporary advertising and that of a half-century ago, which an historical perspective makes apparent, is the relative directness, explicitness and even naivety of many of the earlier ads. Most advertisements in the 1920s and 1930s had come a long way from the detailed reason-why arguments and assertive patent medicine promises of several decades before, but ad writers still made quite specific claims for the functions of most products, thus offering the reader an explicit proposition. (You won't find nearly so many explicit propositions in ads today). Moreover, ad writers rarely hesitated to specify the aspirations toward class mobility that they assumed on the part of the consumer or the exact social benefits the user could expect to derive from the product. For example, a 1926 silverware ad which carried the headline "They Just Couldn't Invite the Tarringtons" proceeded to explain at length how the purchase of a "chest of silver" enabled the featured couple to step up into the Tarrington's social set. Campbell's encouraged the housewife to believe that, by serving soup to guests, she would find a "subtle way of 'announcing' her social postion." A 1931 Ivory Soap Flakes ad, depicting a young couple in evening dress at a "smart restaurant", promised middle class women without maids that "No one can high-hat us about our Hands...IF..." and a Lifebuoy 1933 cartoon ad entitled "Breaking into Society" described how the socially ambitious young couple, which received "so few invitations," made a big hit with the snobbish "Blairs" after the husband learned how to protect against "B.O." [1].

Other significant then-and-now contrasts in advertising are less apparent in the ads themselves, at least on initial inspection. It is to these less readily apparent changes that I want to devote my attention. The discourses between advertiser and consumer have been altered in significant ways over the past half-century by the increasing consciousness of, and strategizing for, market segmentation and by the way in which the advertising trade came to terms with the issue of professionalism.

GENTEEL PROFESSIONALISM

Let us begin with two basic observations about advertising people in the 1920s, the so-called "Golden Age" of American advertising. First, the advertising practitioners were intensely concerned with the issue of professionalism. Having emerged only two decades before from an era dominated by patent medicine advertising, they were extremely self-conscious about their medicine-man image as shysters and hucksters.

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The decade from 1910 to 1920 had already witnessed a surge of organization-building and proclamations of ethical standards within the trade [2]. Many ad men entered the 1920s intent on attaining a professional status analogous to that of lawyers, doctors or clergymen.

My second observation, seemingly unrelated to the first, is that the advertising trade had begun to talk more and more about "research" in the late 1920s, but that such research did not yet involve direct or systematic attempts to assess the needs and wants of consumers or the meanings that they invested in goods. As late as 1929, a *Printers' Ink* article entitled "Recent Developments in Advertising Research" made no reference to personal attitudes or characteristics of consumers and identified the most important current development as the use of "trading areas" rather than of political divisions by marketing studies [3]. Advertising leaders did pay some attention to the studies of such academic psychologists as Walter Dill Scott and Alfred Poffenberger, although my surveys of ad agency literature suggest that they paid much less attention to such studies than some observers have suggested [4]. Neither did the advertising agencies pursue their own studies of consumers - either because their concepts of professionalism led them to focus not on consumers as they were but as they ought to become, or because their claims to expertise asserted a knowledge of people derived from more trustworthy, if less systematic, sources of such understanding. Let's look at how these two phenomena - a search for professionalism and a reliance on personal or intuitive ways of knowing the public - were connected.

For those advertising leaders who coveted a professional image along the traditional lines established by religion and medicine, the central issues were educational and ethical standards and public service. While some sensitivity to the present condition of consumers was desirable (just as was such attention to parishioners or patients), still the central goal was to insure that the consumers' contact with the professional would elevate them to a proper state of piety, health, comfort or taste. Detailed research into consumers' impulses was unnecessary. Proper self-respect as an advertising professional required that the members of one's audience be amenable to uplift and benign advice - either because they already shared the advertisers' standards of taste and decorum or because they were receptive, whatever their present condition, to the influence of their betters.

Thus, advertising agents who sought professionalism in this sense of public service proved particularly amenable to a "trickle-down" theory of consumer influences. A cultured elite, comprising no more than the top five percent of the population, set the styles and shaped opinion, they assumed. As Arthur Page, Publicity Director of AT&T, put it, "I think there are probably not over half a million people who decide what the United States does, prime movers, so to speak, in thinking....If these key people are thoroughly persuaded they will affect the rest of the crowd sooner or later." The *Edison Blue Book* of 1924 described the company's consumer market as "between 3 and 4 million outstanding families...who their neighbors are most anxious to imitate." The manufacturers of linen damask tablecloths even expressed confidence that such trickle-down influences could reverse consumption trends: "Our campaign is aimed at women with cultivated tastes," they noted in 1926, "the thought being to arouse interest in linen damask among social leaders in the community. Once this interest is gained, ...other women will fall in line rapidly and take to tablecloths once more" [5].

The magazines that aimed at an elite audience, particularly those in the "Quality Group" (*The Atlantic Monthly*, *Harper's*, *Scribner's*, *Review of Reviews* and *The World's Work*), seized upon every opportunity to educate advertisers in the trickle-down theory. In a 1926 ad in *Printers' Ink*, for instance, the Quality Group argued the value of the select visitors of the Metropolitan Museum of Art over the masses who patronized the movie palaces: "Those who go to the Museum, while far fewer in numbers, are vastly more effective in thinking power, in purchasing power, and in the power of leadership." They were a "controlling minority" - the "key people of the country." *Harper's Bazaar* prided itself on reaching the influential "Inner Circle" by making "no editorial concessions to the masses" and *Cosmopolitan* proclaimed itself a "class magazine," one that reached "the right kind of people...who set the buying standards for their neighbors" [6]. The N.W. Ayer & Son agency, which sponsored exhibits to identify its advertising art with high art, repeated the message of the "quality" magazines. Its ads for clients in newspapers and magazines provided better merchandising than the salesman, Ayer argued, because these publications could bypass the butlers who guarded access to the top 500,000 people "who influence, to a marked degree, the communities in which they live." Such families, Ayer pointed out, played the crucial role in "determining *today* what we shall wear, eat, play or ride in *tomorrow*. They sponsor a fashion, they find new places of amusement, and sooner or later the world follows" [7].

This commitment to the trickle-down theory found expression in ads which spoke authoritatively of the verdicts of "society." Headlines in Kotex ads consistently proclaimed that "eight in ten better-class women" had adopted Kotex. Texaco serenely advised all motorists to take a lesson from those elegant Texaco patrons whose "chauffeurs are the smartest" and who "instinctively...demand the best" [8]. Confidence in the taste leadership of the fastidious and wealthy proved comforting to those advertising leaders who sought a professional status based on high standards of decorum, education and service. The masses might currently be tasteless and benighted, but there was little need to suffer the denigration of appealing to them at their present level - nor to engage in systematic research to understand their tastes and desires. Tasteful ads would surely uplift them to some degree; moreover, their tastes would gradually be elevated by the example and influence of their social betters, genteel people whom advertisers might address without losing self-respect. It was unfortunately true that even among the influential elite, women were the principal consumers and thus appeals had to take into account feminine emotionality, suggestability and fickleness. But these women were at least style-conscious and fastidious and could be treated with a genteel form of condescension. Agency leaders, like President Earnest Elmo Calkins of the Calkins and Holden agency, might even conceive of themselves as missionaries of beauty and good taste, teaching manufacturers the economic value of beauty in products while uplifting the taste of the masses through products advertised to the elite [9].

AD "PROS" AS PEOPLE EXPERTS

Other leaders in the burgeoning advertising agencies of the 1920s contested this vision of professionalism. The responsibility of advertising professionals, they insisted, was not to art, beauty and civic service, but to the sales performance of their clients. As the agent of a business client, the ad man had only one claim to the status of "professional," such practitioners argued. This claim was the possession of an unique and valuable expertise - a special knowledge of "people." To the manufacturer, the advertising professional brought his "outside view", his ability to empathize with the viewpoint of the consumer. From this standpoint, a view of consumers as socially and culturally quite distinct from business executives served to enhance the importance of professional expertise. The further the manufacturer was removed from the buying public in class position, education, cultural tastes and everyday living experience, the greater was his need for the ad man's expertise in order to bridge this gap. Thus, advertising agents seeking a professional niché based on a special, esoteric knowledge were inclined to emphasize the need to appeal directly to the unsophisticated, even "vulgar," masses.

One might suppose that such an outlook would have suggested formal projects of systematic research into consumer attitudes and behavior. Eventually such a trend would emerge, but in the 1920s and 1930s most advertising agencies were little attracted to academic approaches and were not at all inclined to add so expensive and suspect an undertaking to their services. Many did have research departments, but these were engaged primarily in analyzing coupons returned from ads, surveying retail outlets for sales trends and querying householders on product preferences [10]. Agents made claims for their intimate knowledge of "the people" not on the basis of research, academically defined, but on the basis of personal experience. Again and again, they recounted how they had obtained their expertise through their background (they had "come from the people" in all regions and circumstances) or through contact with people through personal selling on the road or in retail outlets. And they retained a fresh, up-to-date sensitivity and knowledge through constant mingling with the people at large.

One is tempted, for the sake of parallelism, to call this a "trickle-up" theory, but this would distort the idea. Advertising people did not assume that they would be influenced in their own tastes and attitudes by the masses, but merely that they would learn the necessary language in which to address them on behalf of their business clients. The advertising writer "may not live with the mass," as one contributer to Advertising and Selling put it, "but he should be part of it. He should mingle with it, listen to it, observe it, talk to it." Challenging his audience of advertising professionals he demanded: "How many (of you) sit in the bleachers at the ball games? How many ride cross country in buses? How many hang onto the trolley straps when they go about their work in the cities? Do you? Those are the places where your customers are!" [11]. Other advertising leaders were never at a loss to suggest places where the advertising man or woman should go to mingle. They should "sit in the lobby of a motion picture theater," "sit in the waiting room of a big railroad station for an hour a day," "ride the elevators in department stores," "talk with average people in barber shops...on trains...at prizefights," "gossip with clerks in small-town stores," "get some sort of a job selling something to plain folks." Advertising's "laboratories" ought to be "the movie houses, the police courts, the dance halls, the amusement parks, the ball games and circuses." Copywriters should talk to taxi cab drivers and shoe shiners; they should "pound the sidewalks before pounding the typewriter" [12].

As you might well imagine, there is little evidence that the copywriters of the 1920s and 1930s actually did much of this mingling, although the J. Walter Thompson agency did make a big production of sending John B. Watson, the noted academic behavorial psychologist, out to gain several months of experience selling across the counter at Macy's and selling coffee on the road to retail dealers when he joined the agency as a Vice-President in the early 1920s [13]. By and large, advertising people had no time to engage in such patient, deliberate mingling and few felt the inclination to absorb the "culture of the people" as described in one agency ad:

> "Perspiring thousands at Coney Island..Gaudy pennants. The crunch of peanut shells underfoot. Chewing gum. Mustard dripping from hot dogs. People struggling for a view of some queer freak in a side show. Red-faced men elbowing and crowding for the vicarious thrill of a cooch dancer...Stopping for the shudder of

> gaping at a gory accident...Women tearing other women's clothing in the scramble of a bargain counter...." [14]

But if most advertising people declined to mingle with the "vulgar" masses in their own haunts, still they were regularly exhorted to do so. These ritual incantations served to remind would-be professionals in the trade the specific nature of the expertise upon which they must lay their claim to provide a professional service. As the N.W. Ayer agency put it, "we have made it our business to know *people*" [15]. If the cross country bus trips, Coney Island excursions and police court visits represented a myth of the trade, still it was a myth that served to re-enforce a penchant to resist any academic or scientific conceptions of how one might come to "know" the people. Even now, advertising research is often resisted by creative people in the agencies as a unwelcome intrusion and a damper upon their creative work. In the 1920s, the agencies conducted virtually no systematic research on consumers; when a few began to make tentative forays into this field in the early 1930s, prestigous agency leaders such as Albert Lasker, president of Lord and Thomas, dismissed such approaches with contempt. Most research surveys merely resulted in a "competition of bunco slinging." For instance, Lasker asked, what use had a live-stock raiser for an advertising agency that would "go out and make a great research and come back and profoundly report to the advertiser that a jackass has two ears"? His own idea of cheaper and more efficient research was to assign a stenographer to review the last ten years of a company's ads in the *Ladies' Home Journal* and report which themes the ads stressed most [16].

Ironically, just as the "trickle-down" theory had protected the self-respect of advertising men by assuring them that they need not abandon their own artistic standards, so the "people experts" mystique, when described in experiential rather than scientific terms, could justify a certain artistic autonomy on the part of creative agency people. They might resist limitations on their creativity by asserting their special knowledge of the mass audience gained from instinct and experience.

The "experience" from which most advertising people actually gained their image of the consumer masses was their attention to the new media of popular culture. When the J. Walter Thompson agency began in 1930 to invite outside experts to speak to its creative staff, it did not invite any academic psychologists or sociologists with expertise in community studies or research methods. Neither, incidentally, did the agency call in any barbers or taxi cab drivers, nor did it propose group visits to railroad stations or movie theater lobbies. The agency invited experts from the world of newspapers, comic weeklies, movies, and popular magazines [17]. And the trade as a whole paid close attention to such booming successes as the tabloid newspapers and confession magazines. It observed with disenchantment the way in which bad taste seemed to drive out good taste in radio programming. Then, in the early 1930s, it responded with some shock to George Gallup's findings that people of all occupations and classes preferred the comics to all other sections of the daily and Sunday newspapers. Such evidence of seemingly declining popular tastes marked the penultimate stage in the ascendancy of the "take them as they are" pros in "people expertise" over the uplift faction. The deepening depression of the early 1930s confirmed that dominance by stimulating an attack on the genteel and presumably ineffective, "pretty-pretty" advertising of the 1920s and a call for "hard-hitting, hard-working," hit-them-where-they-are styles of advertising [18].

FROM UPLIFT TO AMORAL CRAFTSMANSHIP

The uplift school of advertising never did recover from the series of blows administered by the new media, the successes of a number of low-pitched, tasteless campaigns, and the sales-consciousness enforced by the depression. It is difficult to conjure up much nostalgic sympathy for so patronizing and condescending an attitude. Whatever we may think of more recent advertising, should we not at least be grateful that it does not mask itself as social and cultural uplift? Did not advertising, in some sense, become more "democratic" when it abandoned the effort to induce mass consumers, through the influence and example of their "social betters," to adopt the cultural standards of a self-appointed elite? By putting aside their own tastes and appealing to the masses in their own cultural idiom, did not advertising people acknowledge the right of the consumer masses to make their own choices? Did they not, in some sense, put themselves in the service of those masses and their expressed preferences?

I believe that the answer to these last two questions is "no". To adopt a "just folks" tone of voice was hardly less manipulative of consumers than the earlier intonations of social guidance. Nor did the copywriters' low opinion of the average consumer as irrational, tasteless and mentally deficient undergo any significant change. Quite the contrary, vicarious familiarity, through attention to the media of mass culture, generally bred even greater contempt [19]. All that had changed was that the triumphant "take them as they are" pros had happily acknowledged the necessity of using their power to shape people's consumer choices, but to do so directly through the ads rather than indirectly through the intermediate influence of a social elite.

If a certain degree of social pretense had declined with the demise of the uplift viewpoint, still it is difficult to argue that the language of advertising thus became more direct and more culturally "honest." A concurrent trend in America advertising in the 1920s and 1930s had moved steadily toward the dominance of visual imagery over written text. And with the decline of text came the decline of direct argument, of explicit proposition. When we are surprised by the striking directness and naive presumption of some of the promises and propositions in the ads of a half century ago - this soap will enable you to break into society...this soup will establish your social position...this bread will induce your husband to come home from the office for dinner - we need to remember that reliance on visual imagery has allowed assertion to be replaced by allusion. As advertisers quickly learned, the visual image far surpassed words in conveying the sense of some ineffable quality in the product and associating that quality with consumers' increasingly confused and indistinct notions of what would bring them satisfaction [20]. "Logic," as one writer in Advertising and Selling put it, "is not the best technique for seduction" [21]. If contemporary advertising does not even implicitly make quite the same promises about social standing and mobility that the ads of the 1920s made so directly, its powerful visual images evasively suggest promises that even the more blunt and naive ads of an earlier day were too modest to put forward.

With the decline of the trickle-down theory and the eclipse of the uplift faction in the advertising trade, there emerged a certain resolution to the meaning of the exhortation to "give them what they want." In its purest form, the Victorian notion that consumer tastes would be shaped by the examples of a narrow social elite had stimulated such elevated conceptions of the potential tastes of the public as this preface/advertisement for a 1848 gift book:

> "...in this book our mothers, our sisters, our daughters and our choicest female friends will find, reflected from its every page, the pure sentiments and councils of their own virtuous hearts [22].

Such treacly prose may have masked condescending attitudes and manipulative purposes, but it did imply some responsibility for the cultivation of the consumer's best qualities. The assumptions of the ascendant "give them what they want" school of 1930s advertising justified a much more detached, amoral view toward the consumer audience.

THE ECLIPSE OF PATERNALISM

In this connection, one additional, significant aspect of the decline of the "trickle-down" theory remains to be discussed. This is the issue of gender, which is related both as cause and as repercussion, to the decline of the uplift viewpoint. From the earliest social distinctions between producer and consumer, the role of consumer has been characterized as feminine [23]. Those who prided themselves on their roles as producers, as did the producers of advertisements, could not refrain from linking the qualities of irrationality, lethargy, wastefulness, and unintelligence that they perceived in the consumer masses with the qualities of emotionality, capriciousness, passivity, and limited intelligence that had long been attributed to women. Since, by the common observation of the trade, women did from 80% to 85% of all retail buying, advertising men found it both natural and satisfying to look upon their messages to the consumer masses as communications from men to women [24]. Such a relationship required a certain condescension since, as a Batten, Barton, Durstine and Osborn agency newsletter pointed out, "women are certainly emotional!" [25]. The need to resort to simple, emotional appeals could be discomforting. Advertising men occasionally expressed a fondness for "industrial advertising," directed to other businessmen, in which they could more self-respectingly talk "man to man" (producer to producer).

But men had always, they reflected, accepted the need to speak condescendingly to women, and the assumption of a fundamental gender distinction between producers and consumers enabled them to continue to assume that this broad "division of labor" did not undermine the producer-oriented standards of the society as a whole or their own respectability as part of the producer class (gender). These conceptions all fit nicely with the uplift outlook; advertising men could address women of the social elite as they would their own wives - on the assumption that they were tasteful, fastidious and culturally sophisticated, even if swayed by whim and emotion. And these women could then exert their influence on the tasteless masses. But the comfortable assumption of a fundamental gender distinction proved to be only a temporary refuge from acceptance of the arrival of a "consumer society," a society in which even "producers" like themselves had to pander to the lowest tastes and passions of the mob. The most mindless, tasteless forms of popular culture, from cheap movies to comic strips and radio shows, seemed to hold allure for both men and women. And male consumers proved disconcertingly receptive to low-pitched campaigns for cigarettes, razor blades, and shaving creams. Inescapably, to "take them as they are" meant to recognize the dominance of the uncultivated masses, men and women, and to gain one's self-respect from expertise in craftsmanship, not from social service in the name of cultural uplift.

Gender had represented the last stand of professional respectability in the traditional sense. From now on both the restraints and self-esteem of paternalism would fade and the aura of gamesmanship would prevail. And you all know, from your own research and personal experience that in the "advertising game," however the players may move and countermove, trust and parry, trump and over-trump, this is not an engagement in which Victorian sensibilities, for either uplift or paternalism, govern the changing rules of the game.

REFERENCES

1. American Magazine, (December, 1926), p. 178 (July 1927), p. 69; Ladies' Home Journal, XLVIII (December, 1931), p. 38; Saturday Evening Post, 23 September, 1933, p. 93.
2. Daniel Pope, The Making of Modern Advertising (New York, 1983), pp. 184-226; Quentin James Schultze, Advertising, Science and Professionalism, 1883-1917: (Ph.D. diss., University of Illinois, Champaign-Urbana, 1978), pp. 92-93, 98-99, 174-84.
3. Printers' Ink, July 19, 1928, p. 81. See also, Printers' Ink, February 25, 1926, p. 42 and January 13, 1927, pp. 8-9.
4. In agency in-house publications and minutes of agency minutes, I have very rarely come across any references to the findings of academic psychology. These sources reveal that advertising practioners relied primarily upon personal observation, conventional stereotypes and close attention to the media of popular culture for their "reading" of the public.
5. "What Publicity and Advertising Can Do to Help Operation" (1927) pp. 4-5, in Vol. 5 (Articles and Addresses), Arther Page Papers, Wisconsin State Historical Society; Edison Blue Book, 1924, p. 11; Printers' Ink, August 26, 1926, p. 36.
6. Printers' Ink, 25 November 1926, pp. 102-03; 2 December, 1926, pp. 54-55; Advertising and Selling, February 1927, p. 18.
7. Saturday Evening Post, February 6, 1926, p. 63.
8. American Magazine, (December, 1926), p. 6; Saturday Evening Post, February 19, 1927, p. 119; March 17, 1928, pp. 98-99.
9. Earnest Elmo Calkins, Business the Civilizer (New York, 1928), pp. 20-23, 249, 251, 253; Printers' Ink, September 25, 1930, pp. 72-73.
10. Roland Marchand, Advertising the American Dream: Making Way for Modernity, 1920-1940 (Berkeley, CA, 1985), pp. 75-76.
11. Advertising and Selling, November 8, 1934, p. 64.
12. Printers' Ink, January 26, 1928, p. 116; January 5, 1928, p. 60; March 15, 1928, p. 151; August 20, 1931, p. 118; October 1, 1931, p. 133; November 26, 1931; Advertising and Selling, January 22, 1930, p. 31; May 25, 1933, p. 33.
13. J. Walter Thompson News Bulletin, December 1925, p. 29, J. Walter Thompson Co. Archives, New York City.
14. Advertising and Selling,, May 23, 1935, p. 37.
15. "Joe and the Corporate Surplus" (Brochure, 1936), Box 34-31, N.W. Ayer & Son Archives, New York City.
16. Albert Lasker, The Lasker Story: As He Told It (Chicago, 1963), pp. 99-101, 114-117; John Gunther, Taken At the Flood: The Story of Albert D. Lasker (New York, 1960), pp. 198, 206.
17. Minutes of Monday Evening Talks, March 17, 1930 and March 24, 1930; Minutes of Creative Staff Meetings, August 21, 1931, and April 12, 1933; and JWT, Newsletter, August 26, 1926, p. 202, J. Walter Thompson Co. Archives.
18. Marchand, Advertising the American Dream, pp. 300-303, 318-320.
19. Research into consumer characteristics eventually modulated advertisers' negative perceptions somewhat. Few studies could have helped but elevate stereotypes of the typical consumer from the impressions that ad people drew from their assessment of popular culture.
20. For an insightful discussion of the increasingly vague relationships between needs and satisfactions see William Leiss, The Limits to Satisfaction (Toronto, 1976), pp. 49-94, and William Leiss, Stephen Kline and Sut Jhally, Social Communication in Advertising (Toronto, 1986), pp. 54-61.
21. Advertising and Selling, June 30, 1926, p. 24.
22. The Oddfellow's Offering (New York, 1847). I am indebted to Susan Eager for bringing this passage to my attention.
23. Carole Shammas, "The Domestic Environment in Early Modern England and America" Journal of Social History, XIV (Fall, 1980), pp. 14-15.
24. Marchand, Advertising the American Dream, pp. 66-71.
25. BBDO News Letter, March 14, 1936, p. 8, BBDO Archives, New York City.

RECENT TRENDS IN THE HISTORIOGRAPHY OF CONSUMPTION

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ABSTRACT

Current work in the history of consumption is interdisciplinary. It emphasizes cultural meanings of consumption, stresses gender roles, rejects "hidden persuader" notions, and examines consumer movements and regulation. Future work should pay attention to visual matters, cross national boundaries and consider production as well.

In Berthold Brecht's poem, "A Worker Reads History," the proletarian voice muses,

> Who built Thebes of the seven gates?
> In the books you will find the names of kings.
> Did the kings haul up the lumps of rock?
> ...
> Every page a victory.
> Who cooked the feast for the victors?
> Every ten years a great man.
> Who paid the bill?
> So many reports.
> So many questions.

In the last two decades, a plethora of studies, inspired by political concern as well as social theory, have gone a long way towards answering those questions. Brecht's worker might not appreciate those findings in the new labor history that stress accommodation, divisions within the working class, and the effectiveness of employer strategies, but today he might be less inclined to complain that his story had gone untold.

Until fairly recently, on the other hand, historians have had relatively little to say about consumption. Writing in the 1970's, Theodore Zeldin could justly observe that "The consumer has yet to find a historian."[cited in 33; frontispiece] In the last few years, however, the history of consumption has begun to emerge as a field of historical research. This paper reflects my attempts to keep up with what has become a swift flow of publications. If I gasp for breath in that pursuit, it also indicates my admiration for the productivity and creativity of those who have turned their attention to aspects of the consumption process. My hope is to classify some of these contributions, point out some common themes and trends, and suggest some future directions. Although, not surprisingly, much of the recent work has dealt with the United States, studies of British and French subjects are also noteworthy. Rather than undertake the task of defining the field of consumption history, I propose merely to indicate the variety of intriguing work being done.

INTERDISCIPLINARY APPROACHES

Perhaps the most impressive aspect of recent historical studies is their interdisciplinary nature. Historians have rarely been shy about raiding the theories and tool kits of other academic disciplines, but their ingenuity and openness are striking when they deal with consumption. Anthropology, psychology, communications theory, literary and artistic theory have been among the sources historians of consumption have utilized. No doubt the borrowing is eased by theorists in the social sciences and humanities who have investigated consumption. For example, anthropologists like Mary Douglas and Marshall Sahlins have shown that consumption goods are laden with cultural meanings. Grant McCracken has ingeniously demonstrated how advertising and the fashion system invest goods with culturally-defined meanings and, in turn, how acquisition and use transfer these meanings from the goods to the consumer.[14] Similar concepts emerge in the work of psychologists like Erving Goffman. In _Gender Advertisements_, for example, Goffman pointed out how messages designed to sell products and services also conveyed a host of messages about sex roles and the behavior of men and women in modern America. The ritualized acts that Goffman sees depicted in advertisements are not merely epiphenomenal, he contends. Rather, "These expressions [of subordination and domination in rituals] considerably constitute the [social] hierarchy; they are the shadow and the substance."[9;p.6] Semiotic approaches, employed by scholars like Judith Williamson, treat commercial messages as complex signs whose layers of reference must be, as she puts it, decoded.[34] Moreover, it is notable that scholars from other disciplines are recognizing the value of historical approaches. This is the case in William Leiss, Stephen Kline and Sut Jhally, _Social Communication in Advertising_, which aims to "set the serious study of advertising firmly on the twin pillars of history and culture."[13;p.6] Similarly, Michael Schudson, in _Advertising: The Uneasy Persuasion_, situates his sociological commentary on contemporary advertising in an historical context.

For myself, contemplation of the concepts that social scientists and humanists have advanced calls forth a certain amount of contrition. In my own work on advertising in the late nineteenth and early twentieth centuries, I insisted that advertising could best be understood as a business strategy rather than as a cultural system. I still would maintain that this is a fruitful way to study advertising, but it is too limiting. Advertisements are of course tools to sell, but they are also laden with a cultural significance that the historian ought to try to recover. To say this, of course, is not to maintain that ads reveal the truths of society and culture. Rather, as Roland Marchand has brilliantly shown, they are *zerrspiegels*, funhouse mirrors that distort as they reflect. Michael Schudson's observation that advertising is "capitalist realism," selecting, accentuating and suppressing different facets of a business society, gives us another telling metaphor for the relationship of advertising and culture.[17,passim; 23,p.6]

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BEYOND ADVERTISING

But the history of consumption is clearly more than the history of advertising. In the last few years, we have also learned a great deal more about changing norms and values concerning consumption, about the history of stores and personal selling, about consumer movements and consumer protection, and even about that vast and fuzzy terrain we might call the historical study of consumer behavior. Here are some of the themes these studies point to.

Consumer Culture

Implicitly or explicitly, much of the recent historical literature posits the existence of a consumer culture. What that means remains somewhat vague, "an ethic, a standard of living, and a power structure," in the words of Richard Wightman Fox and T.J. Jackson Lears, introducing their important recent essay collection.[7,p.xii] For Warren Susman as for Fox and Lears and, implicitly, Daniel Rodgers, the central theme seems to be the decline of an "older culture, often loosely labeled Puritan-republican, producer-capitalist," and the rise of "a newly emerging culture of abundance."[26,p.xx;6;22] For others, like Rosalind Williams in *Dream Worlds*, the key element is the modern tendency to invest emotions and desires in relations to objects instead of people. To Neil McKendrick and his co-authors, *The Birth of a Consumer Society* meant "changes in attitude and thought, changes in prosperity and standards of living, changes in commercial technique and promotional skills, sometimes changes even in the law itself."[16,p.2] According to Chandra Mukerji, what she calls "modern materialism" is grounded in a "combination of rational calculation and ostentatious accumulation...."[19,p.5]

Strikingly, while all posit a transformation of epochal proportions, there is virtually no agreement as to when the consumer revolution took place. Mukerji detects strikingly contemporary patterns in fifteenth and sixteenth century Europe. McKendrick and his collaborators fix the third quarter of the eighteenth century as the birthdate of a consumer society in England. Joyce Appleby, in studying economic ideology in eighteenth-century America, notes strains of a naturalistic, consumer-oriented world view among Jeffersonians in the 1790's.[12;1] In Rosalind Williams's view, the dream worlds of consumption appear in fin de siecle France, and Fox and Lears date the appearance of the culture of consumption in the U.S. to the 1880's and 1890's. Warren Susman observes a shift in "modal type" of character in America to a new concern with personality and presentation of self and identifies the timing quite precisely, in the middle of the first decade of this century. Ronald Edsforth, in his recent study of workers and consumers in Flint, Michigan, *Class Conflict and Cultural Consensus*, contends that the automobile transformed the nation to a consumer society during the 1920's. In a more complex fashion, this is also the timing Roland Marchand suggests, though he emphasizes the varied and subtle ways in which advertising helped reconcile traditional values with the new consumer ethos.

One obvious reason for the wide disparity of dates is that historians are really talking about different phenomena. Thus, for example, the early modern materialists of whom Mukerji writes were engaged in rational calculation. Their epistemology grew out of their growing familiarity with material objects and printed representations of the physical world and was predicated on a clear subject-object distinction. On the other hand, the consumer culture that Marchand, Williams and the authors in Fox and Lears' collection see is one based on fantasy, dream and distortion. Its central institution, advertising, is a "magic system," in the words of Raymond Williams, "a true part of the culture of a confused society."[32,p.29]

One suspects that the disagreements among historians as to the timing of a consumer revolution will not be resolved as long as fundamental questions of meaning remain at issue. Yet perhaps we can live comfortably with diversity and welcome two, three, many consumer revolutions.

Gender and Consumption

Another facet of the current historiography of consumption is its welcome attention to gender roles. Much of the recent literature has sought to understand the social construction of consumption as a female activity. William Leach, for example, discussing "Transformations in a Culture of Consumption: Women and Department Stores, 1890-1925," notes the duality inherent in an institution that on the one hand "reinforced gender distinctions," yet on the other challenged older divisions by offering women new tasks and new opportunities.[12,p.331] In the spectacular department stores of the turn of the century, women could play new, public, secularized roles and demonstrate a modern expressive individualism through consumption. Susan Porter Benson's fascinating study, Counter Cultures, also takes a dialectical approach to the "ways in which saleswomen, customers, and managers jousted for power on the selling floor...."[2,p.6] Her conclusions, like Leach's, are rather optimistic. Managerial control of their salesforces was never complete. A work culture among saleswomen provided opportunities for autonomy, achievement and resistance. Also, alliances between middle-class shoppers and working-class saleswomen indicated the potential of solidarity, however transitory, based on a common women's culture in the face of male authority. Michael B. Miller's history of the great Parisian store, The Bon Marche, rests more on the company's extensive archives; perhaps for this reason, and perhaps because the sales force remained mostly male through most of the period he discusses, Miller's study has less to say about the significance of the department store for gender roles.[18]

Of course advertising is another aspect of consumption in which attention to gender has been a major theme. Acute concern about the portrayal of women in contemporary advertisements, and findings that note recurrent patterns of exclusion, subjugation and brutalization, no doubt motivates this historical interest. Professor Marchand's book is especially praiseworthy for the care and subtlety with which he explores sex roles in advertising in the twenties and thirties. Other studies of advertising, including Schudson's and Stephen Fox's lively general history, The Mirror Makers, also demonstrate sensitivity to the portrayal of women in advertising and the targeting of women as consumers.

It is "natural" to study women when we study the history of consumption not because consumption is a "natural" role for women, of course, but because industrial, urban, market societies have generally assigned tasks of shopping, selecting and purchasing household products (perishables rather than durables) to women. It is intriguing to consider the ways in which buying, a clearly public and social activity, became feminized in an epoch when historians have often pointed to women's confinement to a private, domestic sphere. Striking, too, are the ways in which women have at least partially appropriated the spaces and settings of consumption and have shaped them for their own ends. I am reminded of a recent Dutch film, A Question of Silence, in which four women, strangers to each other, spontaneously decide to attack and kill an officious male boutique manager who had accused one of the women of shoplifting. In life, of course, conflict isn't likely to go so far, but historians like Leach and Benson remind us that stores, like industrial workplaces, may be contested terrain.

Moralizing about Consumption

Yet another development in the recent historiography of consumption is the heightened attention to what might be called the intellectual history of consumption. Contemporary ideas about the ethics of consumption turn out to be hardly as new or as self-evident as we may be inclined to believe. We have biographical treatments now of some of the Americans whose reflections on consumption still echo today.[6;3;7,pp.101-141] One common pattern that seems to emerge in these studies is that even the most "scientific" investigators of consumption were indeed moralists, prescribing and proscribing patterns of consumption. David Shi, in The Simple Life, notes variations on the ascetic theme throughout American history.[24] Finally, in his perceptive study, The Morality of Spending, Daniel Horowitz knits together a patchwork of ideas about consumer behavior and consumer culture in the late nineteenth and early twentieth centuries. Finding a contrast between "traditional moralists" who fretted about the profligacy of the poor and "modern moralists" who wanted to inculcate moderation among the middle class, Horowitz nevertheless concludes that the two groups shared the rhetorical pattern of the American jeremiad and the sense that "worldly goods were compensatory" at best for the loss of truer satisfactions.[11,p.166]

Debates in Gilded Age and Progressive America are not so different from the controversies Rosalind Williams describes in French thought in the same era. Like the erstwhile labor journalist George Gunton in the U.S., the essayist Georges D'Avenel preached optimistically that mass consumption would heal social conflicts and broaden the satisfactions of the working classes. Camille Mauclair in France, like Simon Patten here, hoped that the expansion of wants in a consumer society would cause the intensity of particular desires to wane and thus promote moderation and restraint.

Intellectual historians have also investigated ideas about consumption in seventeenth and eighteenth century Europe. Albert O. Hirschman demonstrated in The Passions and the Interests that in the century before Adam Smith new concepts of human psychology and the bases of social stability provided justifications for self-interested, materialistic, acquisitive patterns of behavior. Joyce Appleby, too, has shown how changing ideas mixed in eighteenth-century America with an expansive social structure to give rise to an ideology that identified freedom and human nature with the pursuit of material well-being.[12;1]

Creativity and Autonomy

A final theme in the new historiography of consumption might be called the demise of the hidden persuader. Surely Vance Packard's 1957 best-seller never has had any serious effect on historical scholarship, and researchers seem to have paid no attention to the fevered fantasies of pornographic ice cubes and soup bowls served up by Wilson Bryan Key. However, Stuart Ewen's 1976 book, Captains of Consciousness, has been widely influential. There is much to admire in Ewen's wide-ranging essay. Resting in part on the cultural commentary of the Frankfurt School, Ewen translated their despair over the totalizing trends of industrial society into a vigorous indictment of businessmen's promotion of an ideology of consumption. What is more dubious is the implicit contention of the book that the ideas of a few advanced and/or eccentric businessmen constitute a full-fledged corporate strategy of control, and, furthermore, that corporate strategies were almost invariably successful.

Few historians of consumption in the last decade have adopted the model of consumption propounded by the critical theorists. On the contrary, for the most part they have seen consumption as an arena of creativity and satisfaction and view consumers as actively shaping the cultural meanings of the goods they acquire and use. Mary Douglas and Baron Isherwood's study of The World of Goods is in large measure a polemic against views of the consumer as deluded or irrational. Indeed, "The most general objective of the consumer can only be to construct an intelligible universe with the goods he chooses."[4,p.65] Michael Schudson's study manifests a healthy skepticism about the effectiveness of even the most carefully-crafted advertising campaigns; advertising has its impact, but its consequences are more indirect than many of its practitioners hope or its critics fear. As noted earlier, Leach and Benson both find initiative and opportunity, alongside manipulation and control, downtown at the department store. And while the authors in the Fox and Lears collection sense confusion in responses to an emerging consumer culture, elites manifest disorientation quite as much as the masses. In Jackson Lears' contribution on Bruce Barton, that avatar of the new age appears "troubled by persistent doubt" about the culture he helped to mold.[7,p.29]

There is a counterpoint, however, to this emphasis on consumer control. Historians have found little use at all for the optimizing models of demand theory in economics. Douglas and Isherwood do pay brief homage to Kelvin Lancaster's newer approach to consumer demand theory. However, historians are (rightly, I should think) doubtful of approaches that posit a hyper-rationality of means and an absolute agnosticism about the ends of consumer behavior. More congenial to the historian would be the occasional maverick economist like Tibor Scitovsky or the late Fred Hirsch, who deign to take into account the nature of people's wants as well as their calculations about how to satisfy them subject to income constraints.

Organization and Protest

There is more, of course. Consumer organization and protest has drawn increased attention among American historians. In an influential article some years ago, David Thelen suggested that the Progressive movement reflected a broad-based consciousness of the victimization of consumers, an awareness that cut across class lines. Now, in Paths of Resistance, he has examined how residents of Missouri around the turn of the century fought against corporate domination through such means as streetcar boycotts, campaigns for municipal ownership of utilities, pressures for protection against food adulteration, and drives to control industrial pollution.[29;30,pp.217-231] Another study that stresses the democratic roots of consumer protest is Elizabeth Ewen, Immigrant Women in the Land of Dollars. Ewen describes the 1917 demonstrations against price increases for Kosher meat and other food products that began on the Lower East Side and spread around New York City.[5,pp.176-183] Dana Frank's article in Feminist Studies, like Ewen's treatment, examines the radical potential in consumer protest.[8] Mitchell Okun, in a detailed study of pure food regulation in New York State in the late nineteenth century, sees consumer protection pressures stemming from the impact of the separation of production and consumption, the self-interest of specific business interests, and the aggrandizing drive of medical and public health professionals.[20] Norman Silber's history of Consumer's Union, Test and Protest, is similarly judicious in his appraisal of an organization that wishes to smooth the path of consumption even as it sermonizes against much of the spending it facilitates.[25] Consumers Union is only one of the latest to recognize the ambiguities of the quest for socially responsible consumption.

A different strain of literature considers the economic and business history of consumer protection regulation. Peter Temin, in Taking Your Medicine: Drug Regulation in the United States, presents a policy-oriented, theoretically-informed study.[28] Unlike Chicago-school economists who tend to see regulation as inherently monopolistic protection for producers, Temin traces drug regulation to a widespread perception of a need for greater control in the face of social and technological change. Like the Chicago economists, however, Temin is persuaded of the need to appraise the social costs of regulation and sees current limits on consumers' (and physicians') drug choices as excessive. Richard Tedlow's valuable article on the Federal Trade Commission's assumption of the task of pursuing dishonest advertising is implicitly critical of bureaucratic aggrandizement in the regulatory process and notes the advertising industry's pursuit of legitimacy through regulation in the 1910's and 1920's.[27] Tom McCraw's portrait of Alfred Kahn, in the Pulitzer Prize-winning Prophets of Regulation, seems to endorse Kahn's position that the market is a better guarantor of consumer well-being in commercial aviation than the Civil Aeronautics Board was.[15] Those of us who have had the pleasure of flying into Stapleton Airport in recent days may be intuitively suspicious, but McCraw and Kahn make a lively, if not entirely persuasive, case.

Still other aspects of the history of consumption cannot be discussed in the confines of this paper. For example, closely related to consumption is leisure, and popular entertainment and commercial amusements are emerging as a major historical research topics. So too is the history of domestic life and housework, and these have also found their historians in recent years. The history of professionals and professionalization constitutes another overlapping subject, especially since so much of current-day consumption involves professional services. The extension of marketing techniques and consumption styles into the realm of politics is another area of current investigation.

FUTURE DIRECTIONS

This somewhat breathless survey of the literature reveals vigorous health and activity, but it also admittedly reflects confusion and uncertainty. The history of consumption has no paradigm and no synthesis. That a transition has occurred in developed societies is widely accepted, but what that change consisted of and when and how it occurred are matters of disagreement if not open dispute. I have no over-arching interpretive framework to propose. I would like to conclude with some words of advice from someone who is currently primarily a consumer of the historiography of consumption.

Visual Aspects

First, I would urge continued attention to the visual element of the consumption process. Academic training in the liberal arts is for the most part an indoctrination into the culture of the word and the book. I think we have to recognize that, for better or worse, consumer culture is an image culture. Roland Marchand's book is pioneering here, in its ability to combine the sensitivity of an Erving Goffman or a Judith Williamson with the understanding of a skilled historian.

Cross-national Studies

Second, there is no need for the history of consumption to be tied to national boundaries. Consider here the example of Sidney Mintz's Sweetness and Power, which is about much more than consumption but which manages to set the history of the so-called English sweet tooth within the context of a modern world economy. Mukerji's study is also creative in its synthesis of developments in Great Britain, on the European continent and in India. Admittedly, market practices, patterns of consumption, and ideas about consumption are in part conditioned by policies of nation states and peculiarities of national character, but comparisons and explorations of commonalities are certainly to be encouraged. This is especially true for the writing of contemporary history. In a world of McDonald's, Saatchi and Saatchi and the Club of Rome, the institutions and environment of consumption are super-national in their scope. Work on the political economy of international communications by scholars like Herbert Schiller, Armand Mattelart, Michael Anderson and Anthony Smith comes to mind here, but much more needs to be done to understand how persuasion, shopping, purchase and use take place in today's world.

Consumption and Production

Finally, I think it is time to begin to reintegrate the history of consumption with the history of production. For Karl Marx, the divorce of production and consumption was one of the great tragedies of capitalist society, and their reunion was one of the promises of a communist society in the future. On a more mundane, if perhaps equally speculative level, Alvin Toffler assures us that the society emerging in America will be one of "prosumers", whose activities will blend the two roles in a new synthesis. But what is utopian in reality may indeed by our task in scholarship. The history of consumption needs the history of production in several respects. First of all, the forces and relations of production (to adopt the Marxist shorthand here) condition the potential for a consumer culture. For example, a recent article by Lorna Weatherill examines household possessions found in probate inventories in late seventeenth and early eighteenth-century England. Her data indicate that craftsmen and yeomen were unlikely to own prosaic items like saucepans, clocks, looking glasses or table linens.[31] Perhaps, as Warren Susman claims, a culture of abundance can survive the shock of a Great Depression. "It is not," he contends, "a question of whether such abundance was a real possibility. The significant issue is the belief that it was."[26,p.xxiv] Yet surely a range of consumer commodities must penetrate below the top strata of a society for us to consider it a consumer society or consumer culture. Weatherill's findings, in my opinion, cast some doubt on the more exuberant claims in the McKendrick, Brewer and Plumb volume about the emergence of mass consumption in eighteenth-century England. The history of consumption is not, of course, to be written with statistics of gross national product and wealth distribution alone, but let us take material conditions into account.

A second reason for integrating the study of consumption with the study of production is that, to a certain degree at least, consumer desires and needs are products of their class positions and their roles in the social relations of production. A French Marxist theorist, Jean-Pierre Terrail, puts it more dogmatically than I would: "...[N]eeds are, essentially, no more than the objective demands of the mode of production with regard to its agents." He continues, "...[T]he analysis of the ideological make-up of needs...must take particular account of the effects of production practices on the forms of the consciousness of needs and on consumption practices...."[21,pp.58,60]

Finally, a consumer society is also a society of large-scale, hierarchical, complex organizations, prominent among them organizations producing the goods and services we consume. However skilled we are, individually and collectively, at carving out niches of autonomy in the arena of consumption, I would contend that we must recognize the importance and power of the institutions that surround us. An analogy with the new labor history is in order; concentration on shop-floor assertions of worker control is a useful corrective to older studies which gave us the history of unions and businesses without revealing the history of workers. But the history of work, like the history of consumption, is not to be understood without learning about the needs and dynamics of organizations and institutions.

I am in the easy but embarrassing position here of preaching but not practicing. Whatever my advice this morning is worth, I think those of us who are consumers of the history of consumption will fare well. It is a burgeoning and fascinating field that I have tried to survey.

BIBLIOGRAPHY

1. Appleby, Joyce O. Capitalism and a New Social Order. New York: New York University Press, 1984.

2. Benson, Susan Porter. Counter Cultures. Urbana: University of Illinois Press, 1986.

3. Diggins, John P. The Bard of Savagery. New York: Seabury Press, 1978.

4. Douglas, Mary and Baron Isherwood. The World of Goods. New York: Basic Books, 1979.

5. Ewen, Elizabeth. Immigrant Women in the Land of Dollars. New York: Monthly Review Press, 1985.

6. Fox, Daniel M. The Discovery of Abundance: Simon N. Patten and the Transformation of Social Theory. Ithaca: Cornell University Press, 1967.

7. Fox, Richard Wightman and Lears, T.J. Jackson, eds. The Culture of Consumption. New York: Pantheon, 1983.

8. Frank, Dana. "Housewives, Socialists and the Politics of Food." Feminist Studies. 11 (Summer 1985): 255-286.

9. Goffman, Erving. Gender Advertisements. New York: Harper & Row, 1979.

10. Hirschman, Albert O. The Passions and the Interests. Princeton: Princeton University Press, 1977.

11. Horowitz, Daniel. The Morality of Spending. Baltimore: Johns Hopkins University Press, 1985.

12. Leach, William. "Transformations in a Culture of Consumption: Women and Department Stores, 1890-1925." Journal of American History. 71 (September 1984): 319-342.

13. Leiss, William, Kline, Stephen and Jhally, Sut. Social Communication in Advertising. Toronto: Methuen, 1985.

14. McCracken, Grant. "Culture and Consumption: A Theoretical Account of the Structure and Movement of the Cultural Meaning of Consumer Goods." Journal of Consumer Research. 13 (June 1986): 71-78.

15. McCraw, Thomas. Prophets of Regulation. Cambridge, Mass.: Harvard University Press, 1984.

16. McKendrick, Neil, Brewer, John and Plumb, J.H. The Birth of a Consumer Society. London: Hutchinson University Press, 1983.

17. Marchand, Roland. Advertising the American Dream. Berkeley: University of California Press, 1985.

18. Miller, Michael B. The Bon Marche. Princeton: Princeton University Press, 1981.

19. Mukerji, Chandra. From Graven Images. New York: Columbia University Press, 1983.

20. Okun, Mitchell. Fair Play in the Marketplace. DeKalb, Ill.: Northern Illinois University Press, 1986.

21. Preteceille, Edmond and Terrail, Jean-Pierre. Capitalism, Consumption and Needs. Oxford: Basil Blackwell, 1985.

22. Rodgers, Daniel. The Work Ethic in Industrializing America. Chicago: University of Chicago Press, 1978.

23. Schudson, Michael. Advertising, the Uneasy Persuasion. New York: Basic Books, 1984.

24. Shi, David E. The Simple Life: Plain Living and High Thinking in American Culture. New York: Oxford University Press, 1985.

25. Silber, Norman I. Test and Protest. New York: Holmes and Meier, 1983.

26. Susman, Warren. Culture as History. New York: Pantheon, 1984.

27. Tedlow, Richard S. "From Competitor to Consumer:The Changing Focus of Federal Regulation of Advertising, 1914-1938." Business History Review. 55 (1981): 35-58.

28. Temin, Peter. Taking Your Medicine. Cambridge, Mass.: Harvard University Press, 1980.

29. Thelen, David P. "Social Tensions and the Origins of Progressivism." Journal of American History. 56 (1969): 323-341.

30. Thelen, David P. Paths of Resistance. New York: Oxford University Press, 1986.

31. Weatherill, Lorna. "Consumer Behaviour and Social Status in England, 1660-1750." Continuity and Change. 1 (1986): 191-216.

32. Williams, Raymond. "The Magic System." New Left Review. 4 (1960): 27-33.

33. Williams, Rosalind H. Dream Worlds. Berkeley: University of California Press, 1982.

34. Williamson, Judith. Decoding Advertisements. Salem, N.H.: Marion Boyars, 1978.

A SELECTIVE HISTORY OF CIGARETTE ADVERTISING: PRELIMINARY PERSPECTIVES[1]

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ABSTRACT

In one form or another, health is a theme which has been at the center of cigarette advertising since the early part of this century [3]. The use of such health claims has been described as deceitful and representative of egregious abuse [22]. Others have suggested that the presence of such advertising makes it impossible for any smoker, or potential smoker, to ignore or forget the harmful aspects of smoking [5]. This paper briefly presents these two viewpoints and examines the degree to which cigarette advertising has historically incorporated health related information.

INTRODUCTION

Conventional wisdom has long recognized that cigarettes may be unhealthy and/or addictive. The disapproval and distrust of cigarettes is reflected in many of the slang terms traditionally used to describe them: coffin nails, gaspers, dope sticks and poison sausages [8]. As early as 1604, King James is said to have been disgusted at the fact that tobacco users become "obstinately addicted" to the substance [13]. That the American public has historically had some sense of the unhealthy and/or dangerous effects of cigarette smoking is illustrated by the results of two Gallup polls. A 1939 Gallup poll reported that in response to a question about New Year's resolutions, one of the five most frequently mentioned resolutions was to "stop smoking" [11]. In 1949 when Gallup asked, "Do you think cigarette smoking is harmful or not?, 52% of cigarette smokers and 66% of nonsmokers responded yes [12].

According to Tye [22], the early use of health claims in cigarette advertising was designed to offset these common-sense perceptions that smoking is unhealthy. "For 60 years tobacco firms have used advertising to deceive smokers and potential smokers into thinking it is safe to smoke. Cigarette firms have used unfounded health claims to encourage people to smoke despite the risk of harm" [22, p. 30]. Blum [2, p. 113] concurs, "The knowledge and common sense about cigarette smoking were there--but so were the mass media [health claims, "scientific" demonstrations, and physician "endorsements" in advertising] to undermine knowledge and cultivate mass denial."

A very different view of health claims in cigarette advertising was suggested by Brecher et al [3] and developed by Calfee [5, 7]. Succinctly, this view holds that through their own advertising, cigarette companies constantly reminded their customers that cigarette smoking constitutes a real threat to health. Brecher et al [3, p. 145] characterized these campaigns as using the "smoke-our-brand-and-stay-well-it's-those-other-brands-that-hurt-you" approach. Similarly, Calfee [5, 7] has asserted that the purpose of health advertising was to distinguish one brand from its competition; the side effect was to remind consumers constantly of the worrisome symptoms associated with smoking. Calfee [5, 7] further asserts that while effective in promoting one brand over another, such health claims were in some instances highly destructive to the interests of the cigarette industry as a whole.

While the use of health claims in cigarette advertising has been much discussed and highly regulated [7], no one has ever systematically examined the extent to which health claims have been utilized in cigarette advertising. Such an examination is of interest in the context of the two arguments presented above. The purpose of this paper then, is to contribute to our understanding of what types of information, or lack thereof, was/is published by cigarette companies, and was/is available to smokers, or potential smokers, through print advertisments. More specifically, this study may provide some insight into the number and types of claims made by individual brands. Further, this study examines whether cigarette print advertising has provided information about the health consequences of smoking. Since the adverse consequences of smoking often take several decades to reveal themselves, cigarette print advertising throughout the last sixty years is examined.

This paper is organized as follows. Next, the research objectives and methodology are discussed. This is followed by the presentation of the findings. The final section discusses the implications of this study and presents suggestions for additional research.

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METHODOLOGY

With the foregoing in mind, the objective of this research was to determine: (1) the extent to which cigarette advertising included information about the health consequences of smoking; (2) the type of health information contained in such claims; and (3) how the extent and type of health information varied over time and by brand.

Given these objectives, content analysis was the most appropriate methodological approach. Information provided in advertisements from 1926 to 1985 was analyzed. This time period was selected because magazine advertisements for these products were uncommon prior to 1926 and were not yet available for 1986. Data collection proceeded as follows. Five cigarette brands offered for sale during this time period were selected. The original product type, manufacturer, and introduction date for each of the brands chosen was: Camel (unfiltered, R.J. Reynolds, 1913), Chesterfield (unfiltered, Liggett-Meyers, 1912), Old Gold (unfiltered, Lorillard, 1926), Viceroy (filtered, Brown and Williamson, 1936) and Lucky Strike (unfiltered, American Tobacco, 1916). In addition, the advertisements associated with a later filter brand (Kent, Lorillard, 1952) were examined.

These brands were chosen on the basis of market share and size of firm. Camel, Lucky Strike, and Chesterfield together commanded over 80% of the market in both 1925 and 1935 [5]. By 1950, those three plus Old Gold and Phillip Morris had a combined share of over 80% of the market. Viceroy, therefore, was a less popular brand and was included to contrast the other four. By 1963, the filter brands reduced the combined share of the original big three brands to 21% [5], and thus, Kent was selected to represent these entries. Further, brands offered by both large and small firms were desirable. Camel and Lucky Strike were produced by the two consistently largest firms (R.J. Reynolds and American Tobacco), while the remaining four brands were produced by smaller actors [5].

One print advertisement for each of these brands was sought for each of the sixty years. It was felt that one advertisement per year was sufficient to illustrate how advertising content changed over time. Advertisements were obtained from Time magazine (first published 1923) dated as close as possible to July 1. July 1 was selected in order to avoid seasonal variation and year-end budgetary effects. If an ad for any of the above brands could not be located in Time, an ad was pulled from the corresponding volume of The New Yorker (first published 1925, ceased cigarette advertising in 1964), The Saturday Evening Post (published 1821 to 1969 and 1971 to present), or Life (published 1936 to 1971 and 1979 to present), in that order. Of these publications, only Time is considered to be a "news and opinion magazine", the remaining three are categorized as "general editorial" [23].

Advertisements could not be located, in the publications chosen, for each brand in every year. Further research indicated that the primary reason for a missing advertisement was the total absence of magazine advertising for a given brand in a given year [18]. The next most common reason was, according to Leading National Advertisers [18], the absence of advertising in the publications selected for a given brand in a given year.

Advertisements for Camel were most successfully located with 0.77 of all years represented (n=46, 60 years). The other brands are represented as follows: Kent 0.76 (n=25, 33 years), Lucky Strike 0.73 (n=44, 60 years), Viceroy 0.68 (n=34, 50 years), Chesterfield 0.63 (n=38, 60 years) and Old Gold 0.40 (n=24, 60 years).[3] Of the 211 advertisements collected, 70.6 percent came from Time, 8.5 percent from The New Yorker, 8.5 percent from The Saturday Evening Post, and 12.3 percent from Life.

A coding scheme for the information conveyed in the headline, subhead, copy and visuals was then developed. A review of the literature,[4] and an examination of a variety of ads, suggested the following general categories of information related to: health, cigarette construction, taste, exhortation to purchase/slogans, hedonic satisfaction, tar and nicotine content, price/availability, coupons/contests, and celebrity/athlete endorsements. Each claim or statement (hereafter referred to as claims)[5] was entered only once regardless of the number of times that particular claim was repeated within a single advertisement. For example, if a claim appeared in the headline, the subhead, and the copy, the claim was coded for the headline only. The focus of the study was the number and type of distinct claims or statements, not the amount of repetition within the ads. This is consistent with the approach adopted by Pollay [17].

Two raters (judges), who were unaware of the purpose of the study, were trained in the use of the coding scheme. Each judge examined and coded the entire set of ads and the inter-rater reliability was found to be 0.81.[6] Differences in code assignments were then resolved and the resulting consensus served as the final data base.

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[3] All four of the unfiltered brands later added a filter. When advertisements for the unfiltered variety could not be located, the filtered variety of the same brand was substituted and noted. The years in which these substitutions began were: Camel 1971, Lucky Strike 1965, Chesterfield 1967, and Old Gold 1955.

[4] In particular see Doron [9]; Miles [16]; Taylor [19]; Calfee [5]; Pollay [17]; Tye [21]; Warner [24]; and The American Medical Association [1].

[5] An exhortation to buy a brand is not strictly an advertising claim, it is a directive. Likewise, encouraging contest participation is not an advertising claim, it is an invitation. However, the majority of the information found in these advertisements could reasonably be described as claims.

RESULTS

The results will be presented as follows. First, the most common categories of claims will be described and compared across brands and time periods. This will be followed by an examination of the specific health claims made and an evaluation by brand and by decade. Lastly, the visuals will be described briefly.

Most Common Claims

Taste claims (e.g. mildness, flavor, aftertaste) were the most frequently made in the total set (all brands, all years) of advertisements: they constituted 22.3 percent of all claims made. Next in frequency (19.7%) were statements associated with cigarette construction (e.g. filter, quality of tobacco, package). Health claims were the third most frequently made, with 18.2 percent of all claims being health related (e.g. reduced throat irritation, reduced coughs, protection against adverse health effects). Thus, nearly one-fifth of all claims involved health (health claims exclude the Surgeon-General's Warning and tar and/or nicotine figures). Statements relating to pleasure accounted for 10.7 percent. All remaining information fell into categories constituting 29.1 percent of claims made. In the 211 total advertisements, an average of 5.5877 claims were made (s.d. = 2.2857) and ranged from 1 to 12 claims per advertisement.

Since an advertisement was not available for all brands in all years, comparisons of claims by brand and over time were made on the basis of the percent of total claims constituted by a particular category of claims. The time periods used were as follows: 1926-29, 1930-39, 1940-49, 1950-54, 1955-59, 1960-69, 1970-79, and 1980-85. Analysis of claims by decade is convenient and is consistent with the work of advertising historians such as Fox [10] and Pollay [17]. The decade of the fifties was split in order to more closely examine the effect of the 1955 Federal Trade Commission ban on health claims in cigarette advertising. This allows for a pre- and post-1955 analysis consistent with Calfee [5]. Advertising of tar and nicotine figures by certain brands (Camel, Lucky Strike and Old Gold) was banned by the FTC in 1950-51 [5, 6]; tar and nicotine figures associated with brands not effected by earlier FTC actions were banned by the FTC in 1960; and the inclusion of tar and nicotine figures was subsequently mandated in 1970. Thus, changes in policy regarding the inclusion of tar and nicotine figures coincide well with the decade breakdown used.

As is shown in Table 1, from 1926 to 1954 the three most frequently made claims in cigarette advertising were those related to health, taste, and cigarette construction. Health claims were the most frequently made type of claim in three out of the four periods prior to 1954. A typical health claim made by R.J. Reynolds was "Not one single case of throat irritation due to smoking CAMELS." This was stated in conjunction with the findings "of noted throat specialists after a total of 2,740 weekly examinations of throats of hundreds of men and women who smoked Camels--and only Camels--for 30 days" (Time 1950). Viceroy, a Brown and Williamson product, suggested that..."Filtered cigarette smoke is better for your health" (Time 1951) and Lorillard's Old Gold asked..."Why Risk Sore Throats?" when Old Gold promised "Not A Cough In A Carload" (New Yorker 1929).

TABLE 1. Most Frequently Made Claims (Category as a Percent of Total Claims Per Period) for All Six Brands.

	26-29	30-39	40-49	50-54	55-59	60-69	70-79	80-85
Taste	21.15% (2)	22.18% (3)	23.21% (1)	16.94% (2)	30.68% (1)	32.52% (1)	19.35% (2)	13.21% (3)
Cig Con	15.38% (4)	22.58% (2)	21.94% (2)	14.75% (3)	29.55% (2)	30.89% (2)	11.61% (4)	
Health	23.08% (1)	24.19% (1)	15.19% (4)	26.78% (1)				
Pleasure		13.31% (4)			12.50% (4)	11.38% (4)		
E B/S	19.23% (3)		17.72% (3)	13.11% (4)	14.77% (3)	17.07% (3)		
TN Figs							32.26% (1)	32.08% (1)
Red TN								12.26% (4)
S Gen W							15.48% (3)	14.15% (2)
Other	21.16%	17.74%	21.94%	28.41%	12.51%	8.14%	21.30%	28.30%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

(Rankings for the period are given in parentheses)

Legend

TN Figs = Tar & Nicotine Figures
Cig Con = Cigarette Construction
S Gen W = Surgeon General's Warning
E B/S = Exhortation to buy/slogan
Red TN = Reduced Tar & Nicotine

From 1955 to 1969, taste claims were most frequently made, followed by cigarette construction, exhortation to buy/slogan, and pleasure. From 1970 to 1985, tar and nicotine figures, taste claims, and the Surgeon-General's warning were most frequently conveyed. During the first five years of the eighties, tar and nicotine figures, the Surgeon General's warning, and claims associated with reduced tar and/or nicotine were most frequently presented. Thus, health related information constituted one of the four most frequently made types of claim/statement in every period studied with the exception of 1955 to 1969. See Table 1 for more detail.

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[6] The measure of reliability used was the ratio of coding agreements to the total number of coding decisions. It has been suggested that researchers can be quite satisfied with coefficients of reliability above 85 percent [14].

As discussed above, prior to 1955, health claims were an important component of cigarette advertising for five out of the six brands studied. See Table 2. Two of these six brands (Old Gold, Lorillard and Lucky Strike, American Tobacco) incorporated health claims in their advertising in the 1920's. Camel, Chesterfield and Viceroy began to utilize such claims in the 1930's. Calfee [5, 7] has suggested that advertising which included "less unhealthy" claims (suggestions that the advertised brand is less unhealthy than a competitor's) would be a more advantageous strategy for smaller firms and that smaller firms would be likely to engage in such adveritising earlier than larger competitors. This study neither confirms nor refutes this suggestion since health claims were present in the early advertisements sponsored by both American Tobacco and Lorillard, a large and small firm respectively. Because of the small number of ads available in the twenties and thus included in this study, it is impossible to establish which of these companies incorporated these claims first. For Kent, introduced in 1952, such claims represented the central focus of its introductory advertising campaign. Only one brand, Chesterfield, failed to utilize health claims frequently. For all of the remaining brands, health claims comprised either the most or the second most frequently used category.

TABLE 2. Most Frequently Made Claims (Category as a Percent of Total Claims Per Brand) Prior to 1955.

	Camel	Chester-field	Old Gold	Viceroy	Lucky Strike	Kent
Taste	25.00% (2)	32.21% (1)	14.52% (3)	11.11% (3)	17.61% (3)	
Cig Con	11.27% (4)	14.09% (4)	22.58% (1)	32.10% (1)	29.58% (1)	15.00% (3)
Health	29.41% (1)		22.58% (1)	24.69% (2)	21.13% (2)	35.00% (1)
Pleasure		22.15% (2)	17.74% (2)			10.00% (4)
E B/S	13.24% (3)	16.11% (3)	14.52% (3)		16.90% (4)	10.00% (4)
P / A				9.88% (4)		
Red TN						20.00% (2)
Other	21.07%	15.43%	8.07%	22.22%	14.78%	10.00%
Total	100%	100%	100%	100%	100%	100%

(Rankings Are Given In Parentheses.)

Legend

TN Figs = Tar & Nicotine Figures
Cig Con = Cigarette Construction
P / A = Price/Availability
E B/S = Exhortation to Buy/Slogan
Red TN = Reduced Tar & Nicotine

After 1955, taste and construction claims, together with information associated with tar and nicotine, were most common for five out of the six brands examined. Chesterfield was again exceptional in that tar and nicotine information was not presented by this brand until the inclusion of such information was mandated by the FTC. See Table 3.

TABLE 3. Most Frequently Made Claims (Category as a Percent of Total Claims Per Brand) 1955 and After.

	Camel	Chester-field	Old Gold	Viceroy	Lucky Strike	Kent
Taste	18.87% (2)	29.63% (1)	37.50% (1)	26.53% (1)	24.66% (1)	21.05% (2)
Cig Con		29.63% (1)	37.50% (1)	19.39% (3)	23.29% (2)	18.05% (3)
Pleasure		24.07% (3)				
E B/S	21.70% (1)	5.56% (4)			16.44% (3)	
TN Figs	16.98% (3)			22.45% (2)	16.44% (3)	22.56% (1)
Red TN	10.38% (4)		25.00% (3)			
S Gen W				11.22% (4)		11.28% (4)
Other	32.06%	11.10%	0.00%	20.41%	19.18%	27.07%
Total	100%	100%	100%	100%	100%	100%

(Rankings are given in parentheses)

Legend

TN Figs = Tar & Nicotine Figures
Cig Con = Cigarette Construction
S Gen W = Surgeon General's Warning
E B/S = Exhortation to buy/slogan
Red TN = Reduced Tar & Nicotine

Health Claims

Of the health claims utilized in the various brand advertisements prior to 1955, those associated with throat irritation, coughs, the irritating properties of cigarettes, and protection from adverse side effects were most common. In the forties and early fifties, it became a common practice to cite "scientific" or "medical" research "substantiating" these types of claims. In the early fifties the notion of health risk reduction was not an uncommon one. It was the fourth most frequently used health claim in the first years of that decade. See Table 4. Lorillard, makers of Kent, incorporated many of these assertions in a 1953 advertisement: "Here's how you can get the protection you need against nicotine and tars--and the smoking pleasure you want...if you're a sensitive smoker--and published medical reports show that 1 out of every 3 smokers is unusually sensitive to the tars and nicotine in tobacco--you can now enjoy real health protection with every cigarette you smoke...If smoking dulls your sense of taste, gives you a 'raw' throat or 'bunched-up' nerves, chances are you're sensitive to nicotine and tars. So, for your own health, as well as pleasure, you should try KENT" (Time 1953).

TABLE 4. Four Most Frequently Made Health Claims (Category as a Percent of Total Health Claims Per Period) For All Six Brands.

	26-29	30-39	40-49	50-54
Throat Irritation	16.67% (1)	21.67% (1)	27.78% (1)	22.45% (2)
Protection	16.67% (1)	11.67% (2)	8.33% (4)	12.24% (3)
Coughs	16.67% (1)	10.00% (3)		
Irritation	8.33% (4)		11.11% (4)	
Risk Reduction				10.20% (4)
Citation of Scientific Findings		—	27.78% (2)	26.53% (1)
Relaxing		10.00% (4)		
Other	41.66%	46.66%	25.00%	28.58%
TOTAL	100%	100%	100%	100%

(Rankings For The Period Are Given In Parentheses.)

An examination of Table 5 suggests that, with few exceptions, there is little to distinguish the various brands in terms of the health claims frequently used. Five out of six brands referred to throat irritation; risk reduction or protection was a frequent theme with five of the six; four out of six referred to "scientific" findings. Camel was unique, however, in that it presented brand endorsements by medical personnel.

The actual placement and/or prominence of health claims within the advertisements was also of interest. Of the total health claims made, 23% were presented in the headline, 31% were presented in subheads, and 46% were presented in the copy. Prior to 1955, brands did exhibit differences in the placement and/or prominence of health claims within these ads. Chesterfield and Kent placed the majority of health related claims in the copy, while the four remaining brands (Camel, Old Gold, Viceroy and Lucky Strike) accorded the majority of such claims the prominence associated with headlines and subheads. See Table 6.

TABLE 5. Most Frequently Made Health Claims (Category as a Percent of Total Health Claims Per Brand) Prior to 1955.

	Camel	Chester-field	Old Gold	Viceroy	Lucky Strike	Kent
Throat Irritation	21.67% (1)		25.00% (1)	35.00% (2)	23.33% (2)	14.29% (2)
Protection			17.86% (2)		26.67% (1)	28.57% (1)
Coughs					16.67% (3)	
Irritation		25.00% (1)	17.86% (2)		10.00% (4)	14.29% (2)
Risk Reduction		16.67% (3)		15.00% (3)		14.29% (2)
Citation of Scientific Findings	21.67% (1)	25.00% (1)	17.86% (2)	10.00% (4)		
Relaxing	11.67% (3)	8.33% (4)				
Effects on Organs Other Than Throat				40.00% (1)		
Stimulant	8.33% (4)					
Endorsement by Medical Personnel	8.33% (4)					
Other	28.33%	24.99%	21.42%	0.00%	23.33%	28.56%
Total	100%	100%	100%	100%	100%	100%

(Rankings are given in parentheses.)

TABLE 6. Placement of Health Claims within Advertisements (Location as Percent of Total Health Claims Per Brand) Prior to 1955.

	Camel	Chester-field	Old Gold	Viceroy	Lucky Strike	Kent
Headline	18.33%	8.33%	35.72%	25.00%	23.33%	28.57%
Subhead	33.33%	16.66%	25.00%	30.00%	53.33%	0.00%
Copy	48.33%	75.00%	39.28%	45.00%	23.33%	71.43%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

After 1955, health claims were very seldom made (2.3% of all claims made) and when they were, over 70% were presented in the copy. The Surgeon-General's warning and tar/nicotine figures were presented, almost without exception, in copy. Claims associated with a reduction in tar and/or nicotine however, were most often presented in the headline or subhead.

Visuals

Visuals here refers to pictorial or photographic representations of subject matter other than cigarette packages or cartons. It was assumed that manufacturers would include representations of their products. In particular, the age of the actor(s), the activity engaged in, implied social or professional success and sexual connotations were of interest.

For the set of advertisements as a whole, actors perceived as being in the 25-35 age group were most often featured. They constituted 57.89% of those shown, while 27.89% were identified as being 36 years of age or older, and 14.21% were categorized as younger than 25. The majority of actors were engaged in activities which imply physical vigor and were portrayed as being socially and professionally successful. The absence of sexual connotations is notable. Only 5.19% of the visually implied claims were of a sexual nature. Eighteen percent of the advertisements utilized either an athlete or celebrity endorsement.

Some changes in the visually implied claims can be noted pre- and post-1955. In the period prior to 1955, actors were almost exclusively perceived to be in the 25-35 age group. Post-1955, the number of actors perceived to be 36 and older was about equal to those in the 25-35 age group. Thus, featured actors appeared to be older post-1955. Another interesting difference is the portrayal of professionally successful individuals. Prior to 1955, actors and settings very often implied professional success. After 1955, this is not the case. Social, not professional, success became the dominant theme. In both periods, actors portrayed as participants in vigorous, physically demanding activities was common. However, almost 90% of the total athlete and celebrity endorsements occurred prior to 1950.

DISCUSSION

While this study is not one of consumer perception or information processing, it does identify the dominant advertising themes associated with several cigarette brands and examines them over time. It has been demonstrated that until 1955, health claims were a consistent and important consideration in the advertisement of the brands analyzed here. Moreover, in the years following 1970, the mandatory disclosure of tar and nicotine yields based on official tests, the Surgeon-General's warning, and claims regarding reduced tar and/or nicotine were prevalent. It was demonstrated that in the period from 1955 to 1969 there was a paucity of commercial information relating to health. During this period taste claims were most frequently made.

Thus, the findings of this study are somewhat at odds with the previously quoted statement by Tye [22, p. 30] which asserts that "for 60 years, cigarette firms have used unfounded health claims to encourage people to smoke..." This study suggests that until the imposition of the Federal Trade Commission (FTC) advertising guides in 1955, the manufacturers of the brands examined here did indeed use health claims in their advertising. After 1955 however, the only statements made in conjunction with health were those mandated by the FTC and the Congress or were related to this required information. In both instances one presumes that the information is of a factual nature. Thus, criticism of the presence and veracity of health claims in cigarette advertising may well be limited to the period before 1955.

While Tye's [22] indictment of all health claims, comparative or otherwise, as false may not be warranted, an examination of the veracity of representative claims made in the period before 1955 is beyond the scope of this paper.[7] However, as early as 1938 Consumer Reports made the following statements in its first test report on cigarettes [3, p. 144]. "There is little difference perceptible between the various brands of any one type of cigarette...none of the popularly advertised brands appears to be more harmful than any of the-others..." In 1942, Reader's Digest came, essentially, to the same conclusion, "no single brand is so superior to its competitors as to justify its selection on the ground that it is less harmful" [15, p. 5]. Likewise, the federal government held that among the leading brands there was no meaningful difference in nicotine content or in any other important smoke component and no significant difference in the physiological effect of smoking them [8]. Thus, based on the thinking of the day, comparative health claims appeared to be false and were subsequently prohibited by the FTC.

Consideration of the consumer interpretation of the health related information found in these ads is also beyond the scope of this study. However, Calfee [5, 7] has suggested that brands claiming to be less unhealthy draw attention to the harmful aspects of smoking. Consistent with this view, the present study found that until 1955, ads that incorporated health claims typically emphasized the harmful effects of the product class in an effort to make the featured brand appear less harmful by comparison. It is Calfee's [5, 7] conclusion that in the presence of such advertising claims, it was probably impossible for any smoker, or potential smoker, to ignore or forget that cigarettes lead to throat irritation, smoker's cough, and other symptoms frequently enumerated in the cigarette advertising of the period. It was this constant "screaming at the top of their lungs about nicotine, cigarette hangovers, smoker's cough, mildness and kindred subjects" in advertising that tobaccomen blamed for the "first sustained drop in cigarette consumption in 20 years" [4, p. 66, 20, p. 100]. One tobaccoman was quoted as saying, "The public is being frightened from tobacco by [the] outlandish medical claims [made] by some of the [cigarette] manufacturers" [20, p. 100]. Business Week [4, p. 68] raised the obvious question, "Why has the [cigarette] industry persisted in this 'negative' form of advertising even when, as tobacco growers and others complain, it hurts the trade by making people conscious that cigarettes can be harmful?" Calfee [7] provides one answer: advertising that appealed to smokers' fears could indeed reinforce those fears and thereby suppress marketwide demand, but such advertising could also divert sales to the advertised brands. Apparently, those brands which utilized such health appeals perceived their economic interests as different from those of the entire industry. That is, they were willing to sacrifice total industry sales in order to increase the sales of their individual brands.

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[7] Evaluating the veracity of claims made more than 30 years ago could be somewhat difficult in that such evaluations would be based on the current understanding of cigarettes and health rather than the state of understanding at the time the claims were made. On the other hand, a better appreciation of measurement techniques and threshold quantitities of dangerous substances contained in cigarette smoke might indicate important differences where none were previously thought to exist.

Calfee's [5, 7] work suggests that an empirical investigation of how consumers process "less harmful" claims is warranted. Do such claims, as he suggests, inform users that consumption of the product is harmful and therefore provide information pertinent to the assessment of risk? Did the use of health claims in advertising constitute an implicit, yet effective warning to smokers? If this is in fact the case, our future evaluations of cigarette advertising content and the policies regulating it should focus less on the technical veracity of individual claims and more on the impact of health claims on total product class consumption.

REFERENCES

1. The American Medical Association Board of Trustees. "Media Advertising for Tobacco Products," Journal of the American Medical Association, 255 (8), 1986, p. 1033.

2. Blum, Alan. "When 'More Doctors Smoked Camels': Cigarette Advertising in the Journal." in The Cigarette Underworld: A Front Line Report on the War Against Your Lungs, Alan Blum, ed., Secaucus, New Jersey: Lyle Stuart, Inc., 1985, pp. 107-111, 113.

3. Brecher, Ruth, Edward Brecher, Arthur Herzog, Walter Goodman, and Gerald Walker. The Consumers Union Report on Smoking and the Public Interest, Mount Vernon, N.Y., 1963.

4. Business Week. "Cigarette Scare: What'll the Trade Do?" Business Week, December 5, 1953, pp. 58-68.

5. Calfee, John E. "Cigarette Advertising, Health Information and Regulation Before 1970," working paper, Bureau of Economics, Federal Trade Commission, 1985, pp. 1-79.

6. ______________ Bureau of Economics, Federal Trade Commission, personal communication, 1986.

7. ______________ "The Ghost of Cigarette Advertising Past," Regulation, Nov/Dec, 1987, pp. 35-45.

8. Consumer Reports. "Cigarettes, What CU's Tests Showed...the Industry, Its Advertising...and: How Harmful Are They?" Consumer Reports, 18 (February 1953), pp. 59-74.

9. Doron, Gideon. The Smoking Paradox, Cambridge, Massachusetts: Abt Books, 1979.

10. Fox, Stephen. The Mirror Makers: A History of American Advertising and Its Creators, New York: William Morrow and Company, Inc., 1984.

11. Gallup, George H. "New Year Resolutions," The Gallup Poll: Public Opinion 1935 - 1971, 1, 1939, p. 133.

12. ______________ "Cigarettes", The Gallup Poll: Public Opinion 1935 - 1971, 2, 1949, p. 874.

13. Garner, Donald W. "Cigarette Dependency and Civil Liability: A Modest Proposal," Southern California Law Review, 53 (1371), 1980, pp. 1423-1465.

14. Kassarjian, Harold H. "Content Analysis in Consumer Research, "Journal of Consumer Research, 4 (June 1977), pp. 8-18.

15. Littell, Robert. "Cigarette Ad Fact or Fiction," Reader's Digest, 41 (July 1942), pp. 5-8.

16. Miles, Robert H. Coffin Nails and Corporate Strategies, Englewood Cliffs: Prentice-Hall, Inc., 1982.

17. Pollay, Richard W. "The Subsiding Sizzle: A Descriptive History of Print Advertising, 1900-1980," Journal of Marketing, 49 (Summer 1985), pp. 24-37.

18. Publishers' Information Bureau/Leading National Advertisers. Magazine Advertising Expenditures, New York: Publishers' Information Bureau, all years extant.

19. Taylor, Peter. *Smoke Ring: The Politics of Tobacco*. London: The Bodley Head, 1984.

20. *Time*. "Cigarette Hangover," *Time*, November 9, 1953, p. 100.

21. Tye, Joe B. "Cigarette Marketing: Ethical Conservatism or Corporate Violence?" *New York State Journal of Medicine*, July, 1985, pp. 324-327.

22. __________ "Cigarette Ads Reveal a History of Deceit," *The Wall Street Journal*, August 5, 1986, p. 30.

23. *Ulrich's International Periodical Directory*. 24th Edition, New York: R.R. Bowker Company, 1985.

24. Warner, Kenneth E. "Tobacco Industry Response to Public Health," *Health Education Quarterly*, 12 (2), 1985, pp. 115-127.

THE QUALITY OF ECONOMIC MICRODATA: THE GOOD, THE BAD AND THE UGLY

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ABSTRACT

Two validation studies of economic microdata and related work are used to speculate on the likely quality of such data and to develop guidelines for researchers using such data. Data quality is found to be highly variable, but appears to depend systematically on the salience of the topic and recall task. Lessons about the likely effects of measurement error presented in econometrics texts are not very useful.

During the 1950s and 1960s the empirical work of economists was dominated by analyses of aggregate time series data. Concerns over measurement error in such data were understandably relegated to a back burner, since it could be argued that aggregation eliminated most of the offsetting micro-level errors and the time series focus on change made persistent measurement biases relatively unimportant. When compared with the statistical problems of identification, multicolinearity and serial correlation inherent in most time-series analyses, measurement error quite properly was considered relatively unimportant.

Micro-level analyses, usually performed on data gathered from sample surveys, were carried out infrequently in the late 1960s but had gained a position of dominance by the middle 1980s.[2] The agenda of statistical problems has changed accordingly, with far less concern over problems such as multicollinearity and far more for issues like sample selection bias. Problems of measurement error in micro-level data, long a concern in other social sciences, have been blissfully ignored in most micro-level economic studies. No longer able to argue that aggregation eliminates most measurement error, micro-based economic analysts have retreated to the position that, yes, measurement errors probably exist in micro-data, but until we know more about their nature there is little we can do about them.

Getting a handle on the measurement properties of variables typically used in micro-level behavioral data is, at best, difficult and expensive, and, at worse, virtually impossible. In some cases, as with health, crime and voting behavior, it is possible to use independent sources of information to measure the accuracy of some of the survey reports. When validation against records is impossible, a second-best strategy has been to use multiple reports by different respondents or by the same respondent at intervals of several weeks or months (e.g. Bielby and Hauser, 1977) to measure the reports' reliability. Low test-retest reliability clearly points to problems; high reliability is consistent with either the absence of problems or the presence of persistent over- or underreporting.

Luckily for analysts of economic and demographic behavior, such behavior is often, at least in theory, subject to independent validation. But, with the prominent exception of work done in the 1950s and 1960s by Ferber, Maynes and others on wealth data, by Neter and Waksberg on expenditure data, and a few scattered attempts on other topics, little effort has been devoted to investigating the measurement properties of economic micro-level data.

Fortunately, this situation seems to be changing. Two substantial validation studies, of which one (the PSID Validation Study) focused on the quality of employment information and the other (the Study of Michigan Generations) on a range of household demographic and economic information, have recently been completed and offer many lessons about the quality of micro-level data. Insights gleaned from these two studies are reviewed in this paper, along with results from a handful of other methodological projects that provide information on the quality of economic microdata.

Our focus on these two studies forces us, for reasons of space, to be highly selective in reviewing the large body of methodological work that has preceded them. These two studies deserve special attention, however, because they are quite recent and the quality of the independent validation information to which they had access is unusually high. This greatly enhances their usefulness for quantifying measurement error, although it also limits the range of measures for which measurement properties could be established. We have organized the results according to their implications for micro-level data analyses, ranging from point-in-time description to more model-based analyses.

Can respondents report reliably about qualitative aspects of their current situation?

Tables 1 and 2 provide evidence on errors in reports of a wide range of measures of current (i.e., time of interview) fringe benefits. The diversity in the amount of error is striking. Only one percent of the respondents to the PSID employment validation survey gave erroneous reports of medical insurance coverage, but ten percent misreported life insurance coverage (Table 1). Knowledge of the details of health insurance coverage was investigated in a different validation study designed expressly for that purpose and reported by Walden et al. (1984). Pressing for such details produces higher error rates, ranging from 12 percent for in-patient surgery to 71 percent for ambulatory psychiatric care (Table 2).[3]

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[1] Program Director and Associate Research Scientist

[2] In reviewing labor-related articles from eight leading economic journals, Stafford (forthcoming) found that the respective fractions using time series and micro-level data changed from 42 and 11 percent in the 1965–69 period to 16 and 46 percent in the 1980–83 period.

[3] All respondents in the PSID validation study sample were eligible for medical, dental, life insurance and pension benefits. Reporting errors were possible only if respondents didn't think they were eligible. Eligibility was much more variable in the Walden et al. study and it should be viewed as a better estimate of validity for common benefits such as dental coverage.

Only 3 percent of the employment study respondents failed to give accurate reports of pension coverage, but again, when pressed for details such as vesting and early retirement provisions, error rates jump substantially. A safe generalization would appear to be that reports of the *general* aspects of *salient* current circumstances are well-reported. Pressing for detail dramatically increases the likely error, as does asking about less salient conditions.[4]

Table 3, based on the Study of Michigan Generations, shows similar patterns. Birth dates, while obviously salient, may be misreported if respondents want to present themselves as younger (or, perhaps, in some cases older) than they really are. The study found reassuringly little error in such reports. Reports of several automobile-related measures were somewhat more problematic, although probably reliable enough for most analytic purposes.

How about quantitative aspects of their current situation?

Here it is useful to distinguish between a measure's *bias* and its error *variance*. If respondent reports agree *on average* with validation sources, even if that agreement is the fortuitous result of offsetting individual errors, then there is no bias. Discrepancies between individual interview reports and "truth" as revealed by validation sources produce error variance that may or may not be accompanied, in the aggregate, by bias. Bias tends to be more serious for simple descriptive analyses; error variance and covariance are more important for regression-based modeling.

Consistent with the notion that the more detail sought, the worse the survey report, Table 4 shows substantially more error — some bias and substantial error variance — in reports on various quantitative aspects of the respondent's current situation in the Study of Michigan Generations data than was the case for the qualitative evidence shown in Table 3.

Respondents overestimated their house values, on average, by a slight amount (3 percent, after an adjustment for an apparent bias in the assessors' records) and their property taxes by a much larger amount (24 percent). Although the most salient neighborhood characteristic — racial composition — is reported with very little bias, less salient characteristics have more, with respondents underestimating the proportions of their neighbors with low income, overestimating the propor[illegible] with high incomes and substantially overestimating the fraction of neighbors who are elderly.

Although bias may be small in some cases, the error variance is usually much larger, as indicated by the average *absolute* difference between interview and record reports. These average discrepancies were close to 20 percent or more in all measures but racial composition.

Do respondents give reasonably unbiased reports of past flows of income and employment-related measures?

Table 5 summarizes bias and error variance in reports of past calendar years' amounts of earnings, work hours, unemployment and average hourly earnings gathered in the PSID validation study. Generally there appears to be little bias in measures, even if recalled in the June, 1983 interview for the 1981 calendar year, but substantial error variance. Not surprisingly, earnings showed the least bias, perhaps due to their salience from W-2 forms, tax returns, etc. Work hours were significantly underreported, on average, perhaps because of difficulty in recalling episodes of overtime work.

Bias in survey reports of some stock and flow information gathered from a representative sample can also be ascertained by checks against aggregate information, as with the Avery et al. (1987) and Curtin et al. (1987) preliminary comparisons of wealth data from the 1983 Survey of Consumer Finances with flow-of-funds aggregates; the comparisons by Duncan, Hill and Ponza (1984) of PSID transfer income reports with aggregates expenditure totals; and the U.S. Census Bureau's (1983) comparison of transfer and employment income reports from the Current Population Survey and the new Survey of Income and Program Participation with similar aggregate expenditure totals. With the assumption that nonrespondents are similar to respondents, these studies typically find evidence of underreporting that is relatively minor in some cases (transfer measure reports in SIPP and the PSID, mortgage debt, corporate stock and mutual funds in the Survey of Consumer Finances) and major in other cases (earnings in both SIPP and CPS, installment debts in the Surveys of Consumer Finances).

Error variance, as indicated either by the average absolute deviation between interview and record report (Table 5), or by the ratios of error variance to true variance (Table 6), is highly variable.[5] For example, the error-to-true variance ratio (.011) shown in the last row of the first column of Table 6 indicates that tenure with the company is reported with very little error. The extent of true variation in tenure was quite large (the standard deviation was 15.9 years and the range was from 1 to 42 years), and the resulting ratio of error-to-true variance was very small.

Reports of annual earnings and unemployment for the prior calendar year also have relatively small error-to-true variance ratios (.154 and .129, respectively). Curiously, the natural logarithm of annual earnings has a considerably higher ratio than the earnings measure expressed in dollars. This was due in large part to four cases for which very low earnings were reported in the interview and for which measurement error was quite high. Removal of these cases dropped the error-to-true variance considerably.

Validation of reports of work hours was possible only for hourly workers. There was relatively high error variance in the reports of annual work hours. This is not surprising given the complex task facing the respondent in reporting the components of this amount, especially an hours-per-week figure that is averaged over the entire year. Nor is there anything equivalent to the W-2 statement of earnings that summarizes annual work hours.

Errors in interview reports of average hourly earnings (defined as the ratio of interview reports of annual earnings to annual hours) were enormous. The ratio of error-to-true variance was 2.8 for 1982 and 1.8 for 1981. Several factors, spelled out in Duncan and Hill (1985), argue against the likely precision of these estimates for the entire working population but not against the proposition that reports of average hourly earnings have exceedingly small signal-to-noise ratios.

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[4] See Cannell et al. (1981) for an excellent summary of evidence, mostly from the health area, on how salience, time and social desirability affect survey responese.

[5] As shown below, the ratio of error to true variance is a useful measure that, under certain conditions, represents the extent of bias in an error-ridden measure's coefficient if it were included as an independent variable in a multiple regression.

The ratios of error-to-true variance were generally much higher for calendar year 1981 amounts than for 1982 amounts. The jump was most dramatic for unemployment (from .129 to .518) and for work hours (from .336 to .919). For hourly earnings, however, 1982 reports had higher error-to-true variance ratios than 1981 reports. This appeared to be due to the greater tendency in 1981 for the errors in reports of earnings and hours to offset one another.

Can one reduce measurement error by removing apparent outliers?

Analysts often examine their data for extreme cases before using them to describe or model the behavior they represent, believing that such a procedure will purge their data of the most erroneous cases and improve the consistency of their estimates. Duncan and Hill (1985) identified outliers in the univariate distributions of the interview data using a rule of five standard deviations on either side of the mean, with exceptions made when a judgment of what an analyst might do under the circumstance dictated something else.

With the exception of hourly earnings, removal of these extreme cases produced the surprising result that the error-to-true variance ratios generally increased. A closer look at the data confirmed that the interview reports of outliers identified in this way did not have large amounts of error. Their removal reduced the true variance a great deal and reduced the error variance by a smaller relative amount. On balance then, the error-to-true variance increased in most cases. Of course, these cases may have been outliers in a conceptual sense (e.g. when earnings fell to zero if a self-employed businessman had a bad year), and their removal may improve the fit of a model designed to explain only "conventional" behavior. Whether the analyst should choose to handle such conceptual outliers by deleting them or by reformulating the model to cover the behavior they represent is an open question. Validation studies suggest the importance of pondering such questions in the development and estimation of models.

What about recall of time use?

Social scientists from several disciplines have turned to time as a useful unit for organizing analyses of economic and social activities. The work hours and unemployment reports reviewed in the previous section are, of course, examples of time use. But what if one wants a more complete accounting of time allocation? Reliable reporting of patterns of time use has been the subject of intensive methodological work in the past decade, which, although never based on direct validation techniques, does provide a useful body of evidence from which some lessons can be drawn.

Several different approaches have been taken to elicit reports of how respondents spend their time. The most direct is simply to ask questions such as "How much time did you spend doing housework (work, childcare, television viewing, etc.) last week (month, etc.)". More cumbersome methods involve leave-behind diaries and 24-hour recall diaries in which respondents begin at midnight of a given day and report the sequence of these activities over the next 24 hours. Robinson (1986) compared responses to the "How much time. . ." questions and the 24-hour recall method with the "truth" as revealed by reports when a randomly programmed beeper signalled and respondents were instructed to mark down their activities at that point. He found clear evidence that the "How much time. ." questions were affected by the social desirability of the activity. Housework and childcare were substantially overreported; the less direct recall methods did not shown a similar bias.

Apart from the issue of social desirability, recall of time use would appear to place heavy burdens on respondents' memories, especially for less salient activities. Studies of the quality of the 24-hour recall method justify this fear, showing that data quality declines if the period recalled is several days in the past (Juster, 1986). Not surprisingly, the more salient weekend days are recalled more accurately than weekdays. Also worthy of note is that techniques for stimulating recall appear to improve the quality of reporting.

In sum, data on time use activities that are distant, irregular or have elements of social desirability or undersirability are likely to be suspect, as are respondents who have not been properly motivated to do the cognitive work necessary to provide the required information.

How good are retrospective event-history data?

The above analysis indicates that respondents are able to provide error-prone but generally unbiased reports of annual amounts. Panel data, however, are increasingly being used to analyze event histories where precise timing of transitions is essential. To obtain this level of precision in timing it is necessary to ask respondents to date occurrences retrospectively since the prior interview.

It has long been known that respondents often tend to "telescope" more distant events by reporting them as occurring more recently than they actually do. With a panel design, one can "bound" the recall of such events using information collected in prior interviews (Neter and Waksberg, 1965). More problematic is accumulating evidence that respondents simply forget events, even presumably quite salient events such as an overnight stay in a hospital. For example, Cannell and Fowler (1963) found that more than one-quarter of hospitalization episodes that appeared in hospital records were not reported in interviews with the ex-patients if they occurred one year or more prior to the interview. Neter and Waksberg (1965) found about half as many repair expenditures of $20 or less reported if they occurred three months as opposed to one month prior to the interview. Larger expenditures didn't appear to produce substantial memory decay, indicating once again the importance of salience.

The PSID validity study also provides valuable evidence on the quality of episodic recall of unemployment. Table 5 showed that respondents provided relatively accurate reports of overall annual unemployment amounts. A second way of casting information about the unemployment experiences of the respondents, however, is in terms of spells. Company records gave the precise dates on which all spells of unemployment among its workers began and ended. The information obtained in the interviews was not as precise, dating unemployment only to the month in which it occurred. Nevertheless, it was almost always possible to determine whether the respondent reported accurately each spell of unemployment that appeared in the company records.

Table 7 (taken from Mathiowetz, 1986) shows the performance of respondents in reporting unemployment spells of various lengths. It is obvious that respondents have great difficulty in recalling spells of unemployment, especially short ones. Two-thirds (66 percent) of all spells of unemployment that appeared in the company records were not reported in the interview. Even long spells (lasting more than 5 weeks) were seriously underreported: the fraction not reported was about one-half. And only one-fourth of very short spells, lasting up to one week, were reported in the interview. These findings contrast sharply with the relatively greater reliability of the more aggregate measures of annual unemployment hours, discussed above, and argue for extreme caution in analyzing spell-level information of retrospective reports of unemployment. Other kinds of event-history measures, such as those focused on demographic events like births or marriages, may be more reliable because of the greater salience of these events to respondents.

What statistics books tell you about how error variance affects model estimation

In the simple bivariate regression case, dependent (Y^*) and independent (X^*) variables are typically assumed to be related in the following way:

$$Y_i^* = \beta_0 + \beta_1 X_i^* + \epsilon_i \tag{1}$$

where Y_i^* and X_i^* are measured without error, ϵ_i is distributed with mean zero and variance σ_ϵ^2, and with $\mathrm{cov}(X_i^*, \epsilon_i) = 0$.

Measurement error in the dependent variable in this model that is uncorrelated with Y_i^*, X_i^*, and ϵ_i will increase the standard errors but will not bias the estimates of β_0 or β_1. As we shall soon see, although the absence of such correlations is almost universally assumed, validation studies frequently show substantial correlations between measurement errors in measures frequently used as dependent variables (e.g. earnings) and both the true values of those measures and the true values of typical right-hand side measures.

Measurement error in the X variable almost always produces bias in the estimate of β_1. If the measured independent variable X is related to its true value (X^*) according to:

$$X_i = X_i^* + u_i \tag{2}$$

and if u_i is uncorrelated with Y_i^*, X_i^*, and ϵ_i, then the probability limit of the estimate of β_1 is:

$$\operatorname{plim} \beta_1 = \beta_1 - \frac{\beta_1 \sigma_u^2}{\sigma_{X^*}^2 + \sigma_u^2} = \frac{\beta_1}{1 + \dfrac{\sigma_u^2}{\sigma_{X^*}^2}} \tag{3}$$

Measurement error in the Y variable does not effect this plim formula as long as we adopt the far from innocent assumptions that measurement error is independent of X^*, u, and ϵ.

Given those assumptions, the crucial feature of the measurement error of X is the ratio of the error variance to the true variance of X, $\frac{\sigma_u^2}{\sigma_{X^*}^2}$. For example, if this ratio is .5, then the true value of β_1 will be 50 percent higher than its value estimated with the erroneous measure of X. The figures reported in Table 6 are precisely these error-to-true variance ratios. Rodgers and Herzog (1986) develop the more general case where u_i and measurement error in Y_i are allowed to be correlated with Y_i^*, X_i^* and ϵ_i. Virtually nothing can be said about the extent of bias in β without knowledge of these covariances.

What does measurement error really do to regression relationships?

As developed above, conventional wisdom holds that measurement error in the dependent variable biases standard errors but not regression coefficients, while measurement error in independent variable biases regression coefficients to zero. Duncan and Hill (1985) explored some of the implications of the measurement error observed in the validation data with models that related annual earnings to tenure, both of which could be validated, and education, for which validation was not possible. They found that the estimated payoff to tenure was roughly 30 percent lower if interview reports of annual earnings and tenure were used to estimate the relationship than if the company records were used. The source of the bias, however, was not in the amount of measurement error in the tenure measure, because, as shown in Table 6, tenure appears to be extremely well-reported in the interview. Rather, it can be traced to a negative correlation between the measurement error in the report of earnings and the true level of tenure. In the language of the statistical models, there was a strong negative covariance between measurement error in Y_i and the level of X_i. Older workers tended to underreport earnings while younger workers overreported them somewhat.

Such correlations are typically ignored in most measurement error models, and, contrary to conventional wisdom about the effects of measurement error, could bias estimated coefficients either toward or away from zero. In this case, the negative correlation caused a downward bias. But had younger workers been the underreporters, the tenure coefficient would have been biased upward. Conventional wisdom, which holds that measurement errors bias regression coefficients downward, would simply have been wrong in this case.

Rodgers and Herzog (1986) take a more general look at measurement error covariances using data from the Study of Michigan Generations. For several of the measures they consider they find substantial correlations between both the signed and absolute amounts of measurement error and the "true" values of those measures. Correlations between measurement errors and demographic variables were mostly small, although substantial biases on regression coefficients were occasionally introduced by these correlations. Finally, they found that measurement errors tended not to be correlated with with one another, particularly when the variables were not in the same topic area.

What is a poor microdata researcher to do?

It is clear that measurement error is an important phenomenon in economic microdata and that, under certain circumstances, it can seriously affect estimates of simple statistics such as means as well as regression coefficients. It is also clear that these effects can be highly variable. Some measures, especially the most salient, least threatening and easiest to recall, tend to be reported quite well. Others, with less salience or occurring further in the past, are more problematic.

It is crucial for researchers to know as much as possible about the measurement properties of their microdata. An obvious but not always very helpful bit of advice is to restrict one's analysis, when possible, to valid measures. A more realistic position in which researchers find themselves is one of trading off the benefits of good measurement with the costs of omitted variable bias. Omitting a crucial but poorly measured variable may bias coefficients on the included variables more than including it.

One solution to this problem is to build information about measurement properties into the regressions. If one knows that an independent variable has a certain amount of measurement error that is uncorrelated with its own true level, the true level of other variables in the model and other measurement errors, then adjusting that variable's coefficient for the measurement is quite straightforward, using the formulae developed above. Knowledge of error covariances, obtained from validation studies such as those summarised in this paper, can also be incorporated into the regression estimates to adjust for the effects of the measurement errors. It is unlikely that information about all such covariances will be available to the researcher, so the optimal strategy may be one of building in the known covariances and examining the sensitivity of the estimates to assumptions about the unknown ones. Programs such as LISREL are designed to estimate flexible structural models with measurement error variance and covariance.

Sensing yet another opportunity to plead for further research, we conclude with just such a plea. Measurement error problems do not disappear when they are assumed away in econometric models. The binding constraint in advances in dealing with these problems is factual knowledge about the nature of measurement error in the kinds of microdata that we now use routinely. Validation studies are expensive, tedious, and absolutely crucial.

TABLE 1. Error Rates in Reports of Union Status and Several Fringe Benefits

Question	Percent Invalid
Is your current job covered by a union contract?	1
Do you belong to that union?	1
Do you have medical, surgical or hospital insurance that covers any illness or injury that might happen to you when you are not at work?	1
Do you receive sick days with full pay?	9
Are dental benefits provided to you on your main job?	5
Do you have life insurance that would cover a death occurring for reasons not connected with your job?	10
Do you get paid vacation days?	1
Now I need to get some information about any pension or retirement plan you may be eligible for at your place of work. Not including Social Security or Railroad Retirement, are you covered by a pension or retirement plan on your present job?	3
Have you worked under the main or basic plan long enough to earn (the right of vesting?)	11
If you wished to retire earlier (than time needed to receive full benefits) could you receive part but not full benefits from this plan?	28

SOURCE: Duncan and Hill (1985), based on the data from the PSID Validation Study.

TABLE 2. Error Rates in Reports of Own Coverage by Public and Private Insurance for Selected Health Services

Variable	Percent Invalid
Semi-private room in hospital	14
Physician inpatient surgery	12
Other inpatient physician	19
Maternity	45
Eye examination for glasses	27
Routine dental care	22
Orthodontia	31
Ambulatory X-rays and diagnostic tests	30
Ambulatory physician	46
Prescription drugs for ambulatory patients	46
Ambulatory psych. or other mental health care	71
Inpatient mental health	58
Semi-private nursing home or similar facility	67

SOURCE: Walden et al. (1984).

TABLE 3. Error Rates in Reports of Automobile and Birth Data

Variable	Percent Invalid
Auto make	9
Auto year	13
Have a driver's license?	8
Birth date	2

SOURCE: Rodgers and Herzog (forthcoming), based on data from the Study of Michigan Generations.

TABLE 4. Summary of Reporting Error for Reports of House Value, Property Taxes, and Neighborhood Characteristics

Variable	Mean of Simple Difference (Interview-Record)[1]	Mean of Absolute Difference |Interview-Record|
House value (expressed as a percentage difference)	2.9	18.4
Property Tax (expressed as a percentage difference)	24.2*	39.0
Percent of neighbors who		
– are age 60 or older	22.7*	23.2
– are Black	3.5*	6.7
– have incomes over $10,000	–6.7*	18.6
– have incomes over $30,000	6.7*	19.8

[1] Hypothesis test is a two-tailed test for a zero mean.

*p< .05

SOURCE: Rodgers and Herzog (forthcoming), based on data from the Study of Michigan Generations.

TABLE 5. Summary of Reporting Error for Reports of 1982 and 1981 Earnings, Work Hours, Unemployment Hours, and Average Hourly Earnings

Variable	Mean of Simple Difference (Interview-Record)[1]	Mean of Absolute Difference |Interview-Record|
Annual Earnings[2]		
1982	–$55	$2123
1981	–$294	$2567
Annual Work Hours[3]		
1982	90*	157*
1981	115*	211*
Unemployment Hours[2]		
1982	–11	52
1981	–16	45
Hourly Earnings[3]		
1982	–0.63	2.68*
1981	–0.66	2.13*

[1] Hypothesis test is a two-tailed test for a zero mean.

[2] Means for earnings and unemployment based on total sample (n=357).

[3] Means for work hours and hourly earnings are presented for hourly workers only (n=184).

*p< .05

SOURCE: Duncan and Hill (1985), based on data from the PSID Validation Study.

TABLE 6. Ratios of Error Variance to True Variance for Reports of Earnings, Unemployment, Work Hours, and Tenure

Variable	Unaltered		Outliers Removed[1]	
	1982	1981	1982	1981
Annual Earnings	.154	.301	.183 (5)	.325 (2)
ln (Annual Earnings)	.316	.412	.199 (5)	.553 (2)
Annual Unemployment Hours	.129	.518	.214 (6)	.964 (2)
Annual Work Hours (hourly workers only)	.366	.919	.462 (4)	.866 (13)
Average Hourly Earnings (hourly workers only)	2.801	1.835	2.439 (4)	1.495 (4)
Tenure	.011	–	–	–

[1] Number of outliers removed is given in parentheses.

SOURCE: Duncan and Hill (1985), based on data from the PSID Validation Study.

TABLE 7. Percent of Unemployment Spells Unreported by Length of Recall Period and Duration of Unemployment Spell[1]

Duration of Unemployment	Length of Recall Period <8 Months	 9–12 Months	 13–18 Months	 19+ Months	 Total
1 week	53% (17)	66% (58)	76% (97)	81% (75)	74% (247)
2 weeks	58% (12)	64% (45)	66% (21)	71% (42)	67% (120)
3–4 weeks	46% (13)	50% (10)	60% (5)	60% (5)	52% (33)
5 or more weeks	40% (5)	41% (56)	63% (8)	61% (18)	47% (87)
Total	51% (47)	56% (169)	73% (131)	75% (140)	66% (487)

[1] Numbers in parentheses are the denominators for the cell percentages. Since some respondents have multiple unemployment spells, the observations are not independent.

SOURCE: Mathiowetz (1986), based on data from the PSID Validation Study.

REFERENCES

Avery, Robert B., Elliehausen, Gregory E. and Kennickell, Arthur B. "Measuring Wealth with Survey Data: An Evaluation of the 1983 Survey of Consumer Finances," mimeo, 1987.

Bielby, W. T. and Hauser, R.M. "Response Error in Earnings Functions for Nonblack Males." Sociological Methods and Research 6, (2), 1977, 241–279.

Cannell, Charles and Fowler, Floyd. A Study of the Reporting of Visits to Doctors in the National Health Survey. Research Report. Ann Arbor: Institute for Social Research, 1963.

Cannell, Charles, Miller, Peter and Oksenborg, Lois. "Research on Interviewing Techniques." In Samuel Leinhardt (Ed.,) Sociological Methodology 1981. San Francisco: Jossey-Bass, 1981.

Curtin, Richard T., Juster, F. Thomas and Morgan, James N. "Survey Estimates of Wealth: An Assessment of Quality". Prepared for Conference on the Measurement of Saving Investment and Wealth, Baltimore, 1987.

Duncan, Greg and Hill, Daniel "An Investigation of the Extent and Consequences of Measurement Error in Labor Economic Survey Data", Journal of Labor Economics, 3, No. 4, October 1985, pp. 80–101.

Duncan, Greg J, and Mathiowetz, Nancy. A Validation Study of Economic Survey Data, ISR Research Report, Ann Arbor, MI: Institute for Social Research, 1985.

Duncan, Greg J.; Hill, Daniel; and Ponza, Michael. May, 1984. "How Representative is the PSID? A Response to Some Questions Raised in the Unicon Report." Mimeographed. Ann Arbor: University of Michigan, Survey Research Center.

Juster, F. Thomas. "Response Errors in the Measurement of Time Use." Journal of the American Statistical Association 81, 394, June 1986, 390–402.

Mathiowetz, Nancy A. "The Problem of Omissions and Telecopying Errors: New Evidence from a Study of Unemployment" in American Statistic Association Proceedings, Social Statistics Section, 1986.

Neter, John and Waksberg, Joseph. Response Errors in Collection of Expenditure Data by Household Interviews. An Experimental Study Technical Paper No. 11, Washington, D.C.: Bureau of Census, 1965.

Robinson, John P. "The Validity and Reliability of Diaries versus Alternative Time Use Measures." In F.T. Juster and F.P. Stafford (Eds.) Time, Goods and Well-being, Ann Arbor: Institute for Social Research, 1986.

Rodgers, Willard and Herzog, A. Regula. "Covariance of Measurement Errors in Survey Responses," Mimeo, Survey Research Center, 1986.

Rodgers, Willard and Herzog, A. Regula. "Interviewing the Elderly: The Accuracy of Factual Information." Journal of Gerontology, forthcoming.

Stafford, Frank P. "Forestalling the Demise of Empirical Economics: The Role of Microdata in Labor Economics Research." In Handbook of Labor Economics, O. Ashenfelter and R. Layard (Eds.), North Holland: forthcoming.

U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 137, Money Income of Households, Families and Persons in the United States, 1981, U.S. Government Printing Office, Washington, D.C., 1983, Table A-2, p. 216.

U.S. Bureau of the Census, Current Population Reports, Series P-70–83–4, Economic Characteristics of Households in the United States: Fourth Quarter 1983, Table D-3, p. 47.

Walden, Daniel C., Horgan, Constance M. and Cafferata, Gail L. "Consumer Knowledge of Health Insurance Coverage." in Charles Cannell and Robert Groves (Eds.) Health Survey Research Methods, Proceedings of the Fourth Conference on Health Survey Research Methods, DHHS Publication No. (PHS) 84–3346, 1984.

THE EFFECTS OF FAMILY SIZE ON RESPONDENT BURDEN: THE CASE OF PROXY REPORTING FOR CHILDREN'S HEALTH STATUS

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ABSTRACT

Many surveys rely on self reports as well as proxy reports. This study investigates the burden imposed on respondents who are asked to provide health information about other individuals and the potential adverse effect this has on the quality of the proxied responses. The general finding is that more proxy interviews tend to be associated with greater underreporting of health conditions for the proxied individuals. This report offers alternative survey designs for proxy interviews.

INTRODUCTION

Daily conversations are largely made up of questions and answers. The answer that is given depends on many factors--for example, the person doing the asking, what is being asked and how the respondent feels when the question is being asked. Similar variables are at play when surveys are administered. A major objective among survey scientists is to ask questions in a reasonable way without generating too much of an inconvenience for the respondent, thereby allowing him/her to provide as accurate information as possible.

This paper focuses on a survey design that is being used with increasing frequency: proxy interviews. With proxy interviews, an individual is asked to provide information for himself and for other individuals as well, typically fellow household members. The first objective of this study is to first determine whether there is any evidence that the reporting behavior of the respondent is adversely affected as the number of proxy respondents increases. The study hypothesis is as follows: the greater the number of proxy respondents, the more difficult it is for a single respondent to provide information about each individual.

The second objective is to examine respondent characteristics in relationship to the respondent's ability to provide accurate answers. Characteristics that are examined here are the education and health of the respondent and whether the respondent is the mother or father. The paper concludes with some possible design options that may minimize possible respondent burden problems.

PROXY INTERVIEWS AND RESPONDENT BURDEN

The proxy respondent design may be thought of as a survey technique that affects respondent burden. Respondent burden has been interpreted to mean different things [10]. For example, the Office of Management and Budget (OMB), the agency empowered to monitor the requests for information by the federal government, defines respondent burden in terms of time needed by an individual to complete a questionnaire or request for information. Others have referred to burden in terms of the subjective reaction of the respondent to the interview [9]. More recently, Bradburn [2] elaborated the concept of burden so that it referred to the perception of the respondent along four dimensions: (1) length of the interview, (2) effort required of the respondent, (3) frequency of being interviewed, and (4) the stress experienced by the respondent due to the disturbing nature of the questions. These factors were examined experimentally by Sharp and Frankel [8] who found that among suburban households in Philadelphia, interview length was the most important factor in increasing perceived respondent burden. If an individual is asked to provide increasing amounts of proxy information, it is likely that the respondent burden will increase and reporting to be of lower quality.

PROXY INTERVIEWS, RESPONDENT BURDEN, AND REPORTING BEHAVIOR

If proxy interviews are burdensome, why are they used in numerous survey settings? Cost and sampling error considerations have been the primary justifications for using a proxy interview design. The expense of asking a single adult to provide information about other household members is substantially less than interviewing each household member separately. Furthermore, each interview represents several other proxy interviews so that the cost per interview declines while the effective sample size increases and sampling error declines.

Many survey scientists are rightfully concerned about using proxy interviews and whether it is asking too much of the respondent. After all, respondents often have difficulty answering questions dealing with themselves, let alone others. Recent evidence suggests that while a proxy response may be more useful than a self-report for some types of questions (e.g., stigmatizing health events, [4], proxy response may lead to underreporting in other instances (e.g., physician contact rates, [5]).

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It is surprising to find that the studies seeking to investigate differential responses between proxy and self reports have generally focused on comparisons among adult respondents. For the large majority of surveys, the number of proxy adult respondents is only one or two. It is therefore possible that the potential burden imposed on the respondent is not being adequately studied because total household size is not being considered. That is, an adult proxy response may have come after the respondent had already proxied for other household members.

It is intuitive to think the greater the household size, the greater the burden on the respondent reporting for other household members. From Bradburn's perspective, increasing household size will generally lengthen the interview and add to the amount of effort required to respond and increase perceived burden for the respondent. In some cases, burden may increase when a parent reporting about his or her children becomes distressed or psychologically uncomfortable (Bradburn's fourth measure of respondent burden) if the questions pertain to unpleasant behaviors or health conditions of the children.

A clearer picture of the potential adverse effects of respondent burden may emerge by studying response patterns across a wide range of household sizes. Therefore, the presence of children and information collected about children will be examined in the context of household size because the number of children will generally be larger than the number of adults. The relationship between household size and proxy reporting will be studied in two distinct ways:

(1) Proxy reporting for children as a function of household size.

(2) Proxy reporting for children as a function of household size and characteristics of the reporting adult.

In this study, burden will be measured indirectly by changes in reporting behavior rather than by direct measures of burden which might be based on the respondent's reactions to the interview [8].

MATERIALS AND METHODS

A sample of 6000 Utah households was selected by randomly sampling telephone numbers based on a two-stage cluster sample developed by Waksberg [12] and attributed to Mitofsky. The survey was conducted between February and June of 1986 and represented over 20,000 household members, with a response rate of 81%. This study is based on households that had at least one child under 18 in the home and the respondent was either the mother or father. The sample used in this study included 8105 children from households with a mean of 5.8 household members and 3.8 children per household.

When a sampled household was contacted, one person was identified who would serve as the source of information for all other household members. Any adult 18 years or older who responded that they knew the most about the health of all other household members was selected as the informant for the entire household. Because the respondent is speaking for the entire household rather than just herself, it is appropriate for any knowledgeable and responsible adult (as opposed to a randomly selected adult) to speak about the health of all household members.

The structure of the questionnaire is based on a household-then-person design. This means that the respondent was asked whether anyone in the household had a certain health condition or used a type of health care service in a given period of time. If the answer was yes, the respondent was then asked to identify the particular individual. This follows the design used by the National Health Interview Survey [7].

This design therefore asks respondents to think across potentially many individuals over a period of time. The time, effort, and possibly the psychological discomfort involved in providing answers to these questions can potentially impair their ability to sort through the health events for the past year. This is a potential problem for all types of proxy reporting methods. Several recent studies have shown that proxy interviews for even a single individual, often the spouse, may yield very useful information for some questions while underreporting on other items [1, 5].

For this study, respondent burden is likely to increase as household size increases. The more children in the household, the greater the cognitive demands for recalling whether any one individual experienced a given health event. In addition, the number of children (depending upon their age composition) also may be a crude measure for household activity. It is possible that the larger the number of children, the greater are the distractions to the respondent in terms of immediate and local distractions as well as psychological preoccupation that might reduce the respondent's level of concentration at the time of the interview.

Another measure, the length of the interview, may also be an indicator of the burden imposed on the respondent. Such an effect may be due to the inconvenience imposed on an individual because of the sheer sacrifice of time made by the respondent. With each passing minute, the respondent may become less committed to concentrating and answering each question. Alternatively, longer interviews may represent a greater willingness to cooperate indicating that the respondent is extending the interview because it is enjoyable. One of the major advantages of testing for respondent burden effects attributable to the size of the household in Utah is the relatively large average household size in Utah. If more proxy reporting does lead to greater underreporting, it is likely to be observed here because of the greater prevalence of large families. The average Utah household size is 3.2 and nationally it is 2.8.

DESCRIPTIVE RESULTS

The survey asked a knowledgeable adult about 24 different chronic conditions, visits for medical advice, overnight hospitalizations, and assessments of general health status, for all household members (see Appendix A). The relationship between these health variables and household size is shown in Table 1. This table shows that the average number of conditions reported for a given child (the sum of all the conditions numbered 1 to 24 in Appendix A) shows a general decline between households with 4 to 5 members to those with 8 or more. Removing a relatively common condition, influenza, from this total (called "chronic conditions") shows that the negative relationship between household size and the average number of chronic conditions is also observed.

Table 3 reports a similar set of relationships for health care utilization patterns. Overall, the larger the household size, the less likely a child is reported to have seen a doctor for medical advice or have been hospitalized overnight.

Tables 1 through 4 also break down these relationships by age to control for any confounding between household size and the age of the child and their relationship to health reports. Table 1 shows that across age groups, children from larger households appear to have fewer chronic conditions than similarly aged children from smaller households. The exception to this relationship appears to be adolescent children where household size does not have a consistent effect (an exception that is evident in Tables 2 and 3 as well).

Table 1. Average Number of Reported Health Conditions for Children by Age and Household Size

	Household Size				
	2-3*	4-5	6-7	8+	Total
Children Less than 1	0.145	0.349	0.321	0.279	0.293
N	76	172	78	43	369
Children Aged 1 to 4	0.534	0.419	0.441	0.373	0.430
N	178	921	547	241	1887
Children Aged 5 to 12	0.323	0.327	0.305	0.227	0.300
N	201	1506	1513	730	3950
Children Aged 13 to 17	0.229	0.292	0.241	0.322	0.276
N	223	760	551	363	1897
All Children	0.327	0.345	0.320	0.279	0.324
N	678	3359	2689	1377	8103

ANOVA for all 4 household sizes $F_{3,8099} = 3.02$; p=0.03

ANOVA for 3 largest household sizes $F_{2,7422} = 4.50$; p=0.01

*Nearly all are only children.

Table 2. Average Number of Reported Chronic Health Conditions for Children by Age and Household Size

	Household Size				
	2-3*	4-5	6-7	8+	Total
Children Less than 1	0.092	0.244	0.231	0.209	0.206
N	76	172	78	43	369
Children Aged 1 to 4	0.421	0.295	0.289	0.274	0.303
N	178	921	547	241	1887
Children Aged 5 to 12	0.239	0.222	0.200	0.137	0.199
N	201	1506	1513	730	3950
Children Aged 13 to 17	0.153	0.200	0.162	0.223	0.188
N	223	760	551	363	1897
All Children	0.242	0.238	0.211	0.186	0.221
N	678	3359	2689	1377	8103

ANOVA for all 4 household sizes $F_{3,8099} = 3.20$; p=0.03

ANOVA for 3 largest household sizes $F_{2,7422} = 4.25$; p=0.01

*Nearly all are only children.

Table 3. Average Number of Visits to the Doctor for Medical Advice Last Year for Children by Age and Household Size

	Household Size				
	2-3	4-5	6-7	8+	Total
Children Less than 1	3.16	3.02	2.87	2.83	3.00
N	76	172	78	43	369
Children Aged 1 to 4	3.45	2.40	2.22	2.11	2.41
N	178	921	547	241	1887
Children Aged 5 to 12	1.38	1.29	1.20	0.95	1.20
N	201	1506	1513	730	3950
Children Aged 13 to 17	1.03	1.33	1.06	1.10	1.17
N	223	760	551	363	1897
All Children	2.01	1.69	1.43	1.25	1.56
N	677	3354	2689	1375	8103

ANOVA for all 4 household sizes $F_{3,8099} = 21.9$; p=0.00

ANOVA for 3 largest household sizes $F_{2,7422} = 20.2$; p=0.00

*Nearly all are only children.

Table 4. Average Number of Overnight Hospitalizations Last Year for Children by Age and Household Size

	Household Size				
	2-3*	4-5	6-7	8+	Total
Children Less than 1	0.961	1.01	0.821	0.791	0.932
N	76	172	78	43	369
Children Aged 1 to 4	0.084	0.423	0.366	0.108	0.0530
N	178	921	547	241	1887
Children Aged 5 to 12	0.0199	0.0392	0.0278	0.0288	0.0319
N	201	1506	1513	730	3950
Children Aged 13 to 17	0.0448	0.0434	0.0327	0.0441	0.0406
N	223	760	551	363	1897
All Children	0.150	0.0905	0.0536	0.0704	0.0798
N	678	3359	2689	1377	8103

ANOVA for all 4 household sizes $F_{3,8099} = 15.9$; p=0.00

ANOVA for 3 largest household sizes $F_{2,7422} = 8.712$; p=0.00

*Nearly all are only children.

MULTIVARIATE ANALYSES

The negative relationship between reported number of health conditions and household size is complex and does not necessarily represent the adverse effects of response burden. Table 5 shows that several disease-based factors contribute to differences in reported health conditions. Table 5 reports two ordinary least squares equations which regress the number of all health conditions and chronic conditions on several indicators of respondent burden (family size, length of interview, whether the respondent was the mother or father) as well as socioeconomic status (total household income and respondent's education level).

The hypothesized relationship between household size and reports of child health conditions continues to find support after controlling for several confounding socioeconomic and demographic factors. For all conditions and chronic conditions, respondents who are asked to respond for larger numbers of household members tend to report fewer conditions. Could it be that household size represents an alternative effect, one which would lead us to expect that children from larger households should be in better health? For a Utah sample, larger households may be a rough indicator of membership in the Church of Jesus Christ of Latter-Day Saints (LDS). The LDS church encourages both large families and lifestyles (i.e., abstinence from caffeine and alcohol) that tend to produce positive health benefits. Other studies have shown that the prevalence rate for many chronic conditions among adults are lower among LDS members than others [3]. Children from LDS families may therefore benefit in this effect. To test for this possibility, LDS status of the household was included in the equations. LDS status of the household does not generate significant changes in the number of reported health conditions while household size continues to produce a downward impact on health reports holding LDS status constant.

The second important measure of respondent burden is the length of the interview. The argument is that longer interviews require a greater time commitment thereby taxing the respondent's good will and ability to concentrate. Alternatively, long interviews are long not because of the inherent length of the questionnaire but because of the established commitment of the respondent to expend greater effort in providing the requested information. Table 5 indicates that longer interviews significantly increase health reports rather than reducing them, controlling for household size. This relationship is somewhat knotty because it has a chicken-egg quality to it. Respondents that are asked about their children's health status require time to provide this information and as a consequence, the more health conditions to explain, the longer the interview. Moreover, only those who volunteer to participate to begin with are included in the sample. Those worried about the prospects of a long interview often do not agree to be interviewed to begin with.

Table 5. Effect of Child and Respondent Characteristics on Reporting the Number of Children's Health Conditions. Numbers are least squares regression coefficients and t-statistics (in parentheses).

	Total Current and Past Year Health Conditions	Total Current and Past Year Chronic Health Conditions
Constant	0.314 (6.44)	0.213 (5.08)
Household Size	-0.262 (5.95)	-0.244 (6.45)
Child's Age (yrs.)	-0.00420 (2.80)	-0.00322 (2.50)
Length of Interview (in Minutes)	0.0125 (11.2)	0.0102 (10.6)
Household Income	0.240 X (10-6) (0.398)	-0.850 X (10-6) (1.64)
R's Age (yrs.)	-0.00619 (5.15)	-0.00316 (3.07)
R's Education (yrs.)	-0.236 X (10-3) (0.344)	-0.109 X (10-3) (0.185)
R's Total Conditions	0.143 (16.9)	0.0639 (8.75)
R is Mother (=1)	0.0634 (3.46)	0.0576 (3.65)
LDS (=1)	-.014 (0.660)	-0.13 (0.688)
Mean of Dependent Variable	0.324	0.221
R^2	0.064	0.034
$\bar{R}^2$	0.063	0.033
N	8103	8103

Three important respondent characteristics were examined which are measures of the respondent's ability to respond about their children's health. First, respondents who are themselves in poor health may not be in a position to provide accurate accounts of their children's well-being. The equations reported in Table 5 clearly indicate that this is not the case and that quite the opposite is true: respondents with many health conditions report more health conditions for their children. This may be an indication that there are true but unobserved familial variables that lead both parent and child to have a greater number of health problems (e.g., shared environment and in some cases, shared genes). Or perhaps a respondent with more health conditions finds questions about his/her child's health to be more salient. With greater salience comes better reporting by the parent.

Not too surprising is the fact that mothers tend to report significantly more health conditions than fathers. While either a mother or father had to consider themselves knowledgeable about the health of all other household members, mothers could nonetheless recall more health events for their children. Assuming that forward telescoping of health events closer to the time of the interview is a problem for either mother or father, mothers appear to be better family spokespersons when dealing with their child's health.

Controlling for the child's own age, older parents recall fewer health conditions for their children than younger parents. The age of the parent was included to remove the possibility that household size was an indirect indicator of the age of the respondent (i.e., older respondents have the opportunity to have more children). The negative effect of increasing respondent age is possibly due to reduced salience of this topic, declining memory, or competing concerns about other activities such as work or marriage.

Table 6 examines a slightly different health outcome: the respondent's qualitative assessment of his/her children's general health status. Note that the dependent variable is not strictly an interval level variable but instead takes on ordinal values of 1 if the child is reported to be in excellent health, 2 if very good, 3 if good, 4 if fair, and 5 if poor. Therefore, factors which tend to yield lower numbers on this health scale tend to encourage underreporting since health conditions which would lead a parent to evaluate their child as being in less-than-excellent health are somehow forgotten or supressed.

Table 6. Effect of Child and Respondent Characteristics on Reporting Children's General Health Status (1=Excellent, 2= Very Good, 3=Good, 4=Fair, 5=Poor). Numbers are least squares regression coefficients and t-statistics (in parentheses).

	Dependent Variable - Children's General Health Status
Constant	1.81 (33.2)
Household Size	-0.0242 (4.89)
Child's Age (yrs.)	-0.00327 (1.94)
Length of Interview in Minutes	0.0102 (8.08)
Household Income	-0.640 X (10-5) (9.45)
R's Age (yrs.)	-0.005 (3.70)
R's Education (yrs.)	-0.001 (1.30)
R's Total Conditions	0.101 (10.6)
R is Mother (=1)	-0.004 (0.188)
LDS (=1)	-0.0364 (1.53)
Mean of Dependent Variable	1.55
R^2	0.043
$\bar{R}^2$	0.042
N	8103

A second feature about this general health status question is that it was asked person-by-person rather than household-then-person. That is, after respondents provided information about the age, sex, and relationship of all household members, they were then asked about each individual's general health status. Because each member was mentioned explicitly in this design, the respondent may be in a better position to pause and think about the health condition of an individual, more so than in the household-then-person design.

Table 6 shows that the continued effects of household size persist: respondents from larger households tend to report their children as being in significantly better health than respondents from smaller households. This partially addresses the possibility that underreporting due to many proxy interviews is not largely attributable to the household-then-person design. Instead, a questionnaire that asks for many proxy interviews simply makes large demands on a respondent under either design (e.g., household-then-person or person-then-person) and meeting these demands is an inherently difficult task.

As before, the estimates in Table 6 show that longer interviews are associated with reports of lower health status. Additionally, older parents continue to rate their children as being in better health than their younger counterparts. The respondent's own health condition once again affects reports of their children's general health status: parents with many health problems tend to report their children as having significantly poorer health relative to parents with fewer health conditions.

Table 7 reports two equations for the effects of household size on health care utilization patterns for children. The negative influence of household size on doctor visits and hospitalization in the past year is evident although the usually high significance of level for the household size effect is somewhat reduced in the hospitalization equation (significance levels are actually not too informative for these equations since the sample size is so large) relative to the other equations. It appears that even memorable health events such as hospitalizations are not immune from underreporting bias.

Table 8 examines two health conditions that are unlikely to be underreported or forgotten by the respondent even under the most adverse survey conditions: a heart condition and hearing loss. The dependent variable is a dichotomy (presence or absence of a condition) and therefore the equations were estimated by logistic regressions. Unlike the findings described earlier, household size does not influence the likelihood that these conditions would be mentioned. It is possible that the disappearance of this respondent burden effect is due to the rarity of these conditions thereby minimizing the likelihood that household size would generate a significant impact on reporting their child's health condition. If this were the case, other variables previously found to be influential in affecting health reports would also disappear. This does not seem to be the case since interview length produces more reports of heart disease and hearing loss, higher levels of household income are negatively associated with reported childhood heart disease, and respondents in poorer health significantly report more hearing loss problems for their children compared to respondents in better health. Thus, even when the number of child proxy interviews increase, memorable health events are not differentially recalled by the parent respondent.

Table 7. Effect of Child and Respondent Characteristics on Reporting Children's Health Care Utilization Patterns. Numbers are least squares regression coefficients and t-statistics (in parentheses).

	Number of Times Received In-Person Advice from M.D. in Past Year	Number of Times* Hospitalized in Past Year
Constant	1.58 (9.40)	0.0428 (2.21)
Household Size	-0.209 (13.5)	-0.00401 (2.27)
Child's Age (yrs.)	-0.0887 (17.3)	-0.904 x (10-3) (1.22)
Length of Interview (in Minutes)	0.0512 (13.4)	0.00248 (5.66)
Household Income	0.107 x (10-4) (5.18)	-0.183 x (10-6) (0.779)
R's Age (yrs.)	-0.0887 (17.3)	-0.469 x (10-3) (1.38)
R's Education (yrs.)	-0.00158 (0.673)	-0.197 x (10-3) (0.733)
R's Total Conditions	0.239 (8.25)	0.00917 (2.79)
R is Mother (=1)	0.443 (7.08)	0.00747 (1.04)
LDS (=1)	0.303 (4.18)	0.00462 (0.555)
Mean of Dependent Variable	1.56	0.039
R^2	0.101	0.0071
$\bar{R}^2$	0.100	0.0059
N	8103	7734

*Excludes children born during the year prior to the interview because their birth was recorded as a hospitalization.

Table 8. Effects of Respondent and Child Characteristics on Reports of Child Health Conditions That Are Unlikely to Be Underreported. Figures are Logistic Regression Coefficients and t-Statistics (in Parentheses)

	Has Child Ever Had a Heart Condition (Yes=1, No=0)	Does Child Now Have Any Hearing Loss (Yes=1, No=0)
Constant	-3.86 (4.44)	-4.35 (6.73)
Household Size	0.00923 (0.121)	-0.0700 (1.24)
Child's Age (yrs.)	-0.00911 (.333)	-0.0214 (1.01)
Length of Interview (in Minutes)	0.0191 (2.05)	0.0190 (2.71)
Household Income	-0.0000294 (2.59)	-0.00000557 (1.22)
R's Age (yrs.)	-0.0247 (1.01)	-0.0291 (1.73)
R's Education (yrs.)	-0.00432 (0.380)	-0.00660 (0.867)
R's Total Conditions	0.0256 (0.169)	0.0258 (3.15)
R is Mother (=1)	0.0515 (0.147)	0.0375 (1.34)

CONCLUSION

The impact that household size has on reports of child health status made by parents has been examined for several different health outcomes. The motivation for looking at this relationship comes from the common practice among survey researchers to use a single respondent as the source of information for all household members. Respondents from larger households are therefore asked to do more work during the course of the interview than respondents from smaller households.

Based on these results, parents report significantly fewer health conditions and rate their children higher in terms of general health status when they conduct more proxy interviews. It is possible that this relationship might be spurious and that the real mechanism at work was the length of the interview. Arguably, interviews may take more time because there are more children in the home to either think about or to be distracted by leading to lower reporting. The data do not support this position because the inverse relationship between health events and household size exists once controlling for interview length. In fact, longer interviews have quite the opposite effect in that greater mentions of health conditions come from lengthier interviews rather than from briefer ones.

Based on these data, what recommendations are there for future surveys? Several options exist which vary in their degree of payoff and which are appropriate only under particular circumstances.

1) Use only self-reported data from a randomly selected adult within the household: If the burden on the respondent increases as the number of proxy interviews increases, it is possible that the respondent should only answer for him/herself. This is appropriate in only certain settings where strictly individual information is being sought. When family or household information is needed, the respondents must either rely on their own recollections of other's behavior (which in some cases may be desirable) or the questionnaire should exclude such items from the survey. Obviously, reliance on self-reports is not feasible when information about children is sought. But unfortunately, the only reliable and practical method for obtaining this information is through the parent.

2) Interview all household members: Ideally one would probably prefer to obtain information about each household member directly from the member in question. Unfortunately, this design can be extremely time consuming and costly. Even large survey operations attempt to achieve this level of contact among all adult household members but must live with some proxy interviews out of practical necessity [7]. Even with the National Health Interview Survey, information on children is always obtained by proxy.

3) Control for the number and type of proxy information if individual information is being sought: To minimize the differential amount of proxy interviewing performed by any one respondent, it is possible to fix the number of household members. This approach is tenable when the survey seeks to obtain information on individuals within the household. Some studies have used this design [11] although it has the obvious limitation of reducing the generalizability of the surved to only households of a

given size. Furthermore, it does not alleviate the potential proxy interview bias but merely standardizes the amount of respondent burden.

4) Statistically control for the household size and proxy interview status: With this approach, the impact of proxy interviews and the number of other interviews proxied by the respondent could be adjusted for in the analysis (see, for example, [4, p. 643]). This strategy has an advantage in that data already collected with proxy interviews can be analyzed after adjustments have been made for possible misreporting bias. However, in the case of proxied children interviews, it is impossible to separate out the effect of a child's proxied response from any child's response since there can typically be no comparisons between proxied information and self-reports (i.e., child reports and proxied reports are the same).

5) Continue to use proxy interviews but with more extensive probes: It is possible that underreporting occurs more frequently among larger households, particularly for less memorable health events, because the survey instrument does not contain sufficient probes. More follow-up questions may help to alleviate underreporting by the resondent [6]. Moreover, additional probes may also encourage interviewers to "stay with" the respondent longer to obtain the information for numerous individuals.

(6) Randomly Select One child: This would standardize the possible burden to all parents. However, the objective of the survey must not be a complete accounting of household health status.

Further studies of the relationship between household size and respondent burden with other widely available data sets covering different topics will help to increase our understanding of this survey design. Studies that would be the most useful to examine for household size-respondent burden effects include the National Health Interview Survey, University of Michigan's Panel Study of Income Dynamics and the Health and Nutrition Examination Surveys. Each of these surveys have used different designs

and focus on a variety of topics that may either enhance or suppress the adverse burden effects examined in this paper.

APPENDIX A

The health conditions asked in the Utah's Health Status Survey: 1986 are listed below.

A. Has anyone in the household ever had any of the following conditions (that was verified by a medical doctor)?

1. Arthritis or rheumatism
2. High blood pressure or hypertension
3. A stroke
4. Chest pain caused by angina
5. Any other heart condition

B. Has anyone in the household had any of the following conditions during the past 12 months (that was verified by a medical doctor)?

6. Diabetes
7. Bronchitis, emphysema, or asthma
8. Cirrhosis or enlarged liver
9. Cancer
10. Influenza or pneumonia

C. Does anyone in the household now have any of the following conditions (that was verified by a medical doctor)?

11. Psychiatric disorders
12. Hearing
13. Wear a hearing aid
14. Ear infections or other problems with one or both ears.
15. Blindness in one or both eyes
16. Problems seeing even when wearing glasses
17. Any speech or language requirements
18. Palsy or cerebral palsy
19. Paralysis of any kind
20. Difficulty with balance and/or walking
21. Reading problems
22. Learning disability
23. Mental retardation

D. Was anyone in the household a patient in a hospital overnight or during the past 12 months? How many different times did (___) stay in a hospital overnight during the past 12 months?

E. Within the past 12 months, did any member of the household get medical advice from a medical doctor or assistant either in person or over the telephone (do not include overnight hospital visits)? How many times did (___) get medical advice in person from a medical doctor (within the past 12 months)?

REFERENCES

1. Andersen, Ronald, Kooper, Judith, Frankel, Martin R., and Associates. Total Survey Error: Applications to Improve Health Surveys. San Francisco, CA.: Jossey-Bass Publishers, 1979

2. Bradburn, Norman. "Respondent Burden," in L. Reeder (Ed.) Health Survey Research Methods: Second Biennial Conference, Williamsburg, VA. Washington, D.C.: U.S.G.P.O., 1979

3. Lyon, Joseph L., Gardner, John W., West, Dee W. "Cancer Incidence in Mormons and Non-Mormons in Utah During 1967-75", J. National Cancer Institute 65:1055-1061, 1980.

4. Mathiowetz, Nancy A., and Groves, Robert M.. "The Effects of Respondent Rules on Health Survey Reports," American Journal of Public Health (v. 75(6):639-644, 1985..

5. Mosely, Ray R., II, and Wolinsky, Frederic D. "The Use of Proxies in Health Surveys: Substantive and Policy Implications," *Medical Care* v. 24(6):496-510, 1986.

6. National Center for Health Statistics. Cannell, Charles F. and Fowler, Floyd. Comparison of Hospitalization Reporting In Three Survey Procedures. Public Health Service Publication No. 1000-Series 2, No. 8, Washington D.C. Government Printing Office, 1965.

7. National Center for Health Statistics. Kovar, M. G., and Poe, G. S. The National Health Interview Survey Design, 1973-84, and Procedures, 1975-83. Vital and Health Statitics, Series 1, No. 18. DHHS Publication No. (PHS) 85-1320. Public Health Service. Washington, U.S. Government Printing Office, August, 1985.

8. Sharp, Laure E., and Frankel, Joanne. "Respondent Burden: A Test of Some Common Assumptions," *Public Opinion Quarterly* v. 47:36-53, 1983.

9. Sheatsley, P. "The Harassed Respondent: II. Interviewing Practices," in L. Bogart (Ed.) *Current Controversies in Market Research*. Chicago: Markham, 1969.

10. Turner, Charles F., and Martin, Elizabeth (Ed.) *Surveying Subjective Phenomenon*, Vol. 1, Chapter 8. Russell Sage Foundation: New York, NY, 1984.

11. Virginia Agricultural Experiment Station. *Family Time Use: An eleven-state Urban/Rural Comparison*, Bulletin VPI-2, Virginia Agricultural Experiment Station, Blacksburg, Virginia, 1981.

12. Waksberg, Joseph. "Sampling Methods for Random Digit Dialing," *Journal of the American Statistical Association* 73:40-46, 1978.

GHOSTBUSTING: IN SEARCH OF THE RESERVATION WAGE

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ABSTRACT

Two techniques for estimating reservation wage rates for non-workers are compared in this paper: the Heckman technique and a direct method based upon responses to a survey question. A low correlation coefficient between the two suggests that the two approaches are not measuring the same underlying variable.

INTRODUCTION

Social science is overrun by ghosts: elusive variables that exist in theory but are unobserved in reality. Researchers who attempt to estimate models of consumer behavior consistent with economic theory often face dilemmas about how to capture these ghosts. Can survey respondents be relied upon to reveal ghost measurements? Or, is it better for researchers to sneak up on the ghosts, by estimating measures of unobserved variables from related data? How much difference is there between a direct approach and an indirect approach to ghostbusting?

One ghost that pervades the labor supply literature is the opportunity cost of time for the voluntarily unemployed (non-workers.) Estimation of this unobservable variable is further complicated by apparent confusion about its proper conceptual measure. For example, Ferber and Green (1985) appear to suggest that potential market wage rates (or perceived potential market wage rates) measure the opportunity cost of time for non-workers. Zick and Bryant (1983), on the other hand, explain why the reservation wage rate is a more appropriate measure. Potential wages, as noted by Zick and Bryant, "only provide us with a lower limit of the price non-employed individuals place on their home work time" [7, p.136].

Despite some apparent conceptual problems with Ferber and Green's work, they have contributed to the literature by exposing discrepancies between direct and indirect approaches to ghostbusting. Their direct approach is to ask non-workers for their own estimates of the wages they could command in the market. Their indirect approach is to generate potential market wage estimates via econometric techniques and data on related variables. (Potential market wages are estimated with and without sample selection bias corrections.) Ferber and Green find a substantial difference between women's own estimates and those derived from the econometric procedures. They therefore suggest that "data adjusted for selection bias may not be useful for the opportunity cost approach to valuation of housework"[2] and call for further research on the differences between respondent's own value of time estimates and those produced by econometrics.

In this paper I answer Ferber and Green's call for more comparisons between direct and indirect value of time estimates. However, my work differs from theirs in two ways. First, I estimate the value of time for full-time college students[3] rather than full-time homemakers. Second, following Zick and Bryant's approach, I use reservation wages (not potential market wages) to measure the value of time for non-workers.

A comparison between the direct and indirect approaches to time valuation will not indicate which procedure is superior because the true values for such ghost variables are never known. However, a comparison can reveal how close indirect estimates are to respondent's own estimates. If the two approaches yield significantly different measures, then this would suggest that researchers should use both approaches to estimate a range of reservation wage rates when measures of the value of time for non-workers are needed.

RESERVATION WAGES AND THE VALUE OF TIME

Time is money. It is therefore not surprising that neoclassical economists have shown how wages can be used to measure the value of time. An understanding of time valuation for full-time students can be gleaned from an application of household production theory to student academic performance production.[4] The theory indicates that the value of time for students who work is approximated by their market wage rates and the value of time for students who do not work is approximated by their reservation wage rates.

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[1] Staff Economist, Bureau of Economics. The views expressed in this paper are the author's and may not be shared by any FTC Commissioners or other members of the Commission Staff.

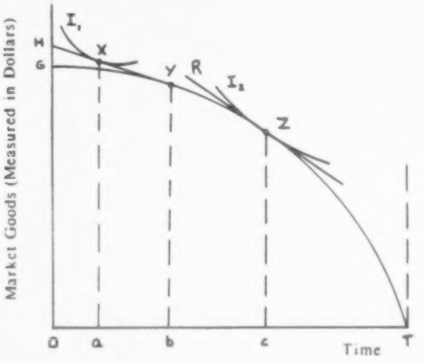
[2] Ferber and Green (1985) at 99.

[3] I use "full-time" student to indicate that students are enrolled in a full-time program, and not to indicate that they do not work for pay.

[4] The graphical approach follows Groneau's (1978) model. To represent the model in two dimensions requires an assumption that academic performance is a perfect substitute for market goods. A more general approach, with less restrictive assumptions, appears in Pappalardo (1986)

Students, like homemakers, combine time and market inputs to produce outputs; homemakers engage in household production and students engage in academic performance production. The academic performance production process is sketched in Figure 1. Time is measured along the horizontal axis and market goods (in dollars) are measured along the vertical axis.[5] The total time available during the period under study is T.

FIGURE 1. Graphing the Trade-offs between Work, Study, and Leisure Time.



In this model students choose among three time uses: leisure time, study time, and work time. Time allocation is determined by the student's academic performance production function, the market wage rate, and his preferences[6]. Arc TG, the academic performance production function, shows how time is related to the present value of academic performance[7]. The slope (in absolute value terms) of line HY reflects the real market wage rate available to the student. Preferences are reflected by indifference curves I_1 and I_2.

If the student has the preferences depicted by I_2 then his utility is maximized at point z, where the rate at which he willing to trade goods for time (depicted by the slope of I_2 at z) is equal to the rate at which he is able to produce academic performance units (measured as the slope of the production function at z.) Thus, this student devotes CT hours to study and OC hours to leisure. The slope of RZ (in absolute value terms) illustrates the value of time for this student who chooses not to work. He does not work because the market's valuation of his time is lower than his own valuation. (Note that RZ is steeper than HY.) The slope of RZ (in absolute value terms) measures the student's reservation wage rate: the minimum wage he would have to be paid for him to be indifferent between working and not working.

If the student has indifference curve I_1, then he will devote OA hours to leisure, AB hours to work, and BT hours to study. Notice that this is the combination of time uses that maximizes his utility, given his income and market prices. The value of time to this worker is reflected by his market wage rate, which is measured by the slope of HY, (and is equal to his reservation wage.) At point x, the student equates his willingness to trade market goods for time (as depicted by the slope of the indifference curve at x) with (1) his ability to trade market goods for time (as depicted by the slope of HY) and (2) the rate at which he is able to produce academic performance units (in present value terms and measured as the slope of the production function).

DATA

The data used for this analysis are from a random survey of full-time Cornell University sophomores, juniors, and seniors conducted during the fall, 1984 semester.[8] The first wave of the survey consisted of 183 personal interviews, which were conducted prior to Thanksgiving break. Data were gathered on student time-use and demographic characteristics. Those who agreed to release their grades at the end of the term were surveyed again by telephone after Thanksgiving break. The sample used for this analysis consists of 143 students. Observations with missing values were dropped. This study is limited to an analysis of behavior during the post-Thanksgiving period because the reservation wage rate question was asked during the follow-up interview. Variables used in the analysis and their descriptive statistics are presented in Table 1.

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[5] Assume that academic performance is measured as the student's grade point average (GPA) multiplied by the number of completed credit hours. The resultant measure, which I call "grade point" or "GP" takes into account the quality as well as the quantity of academic performance. For the graphical analysis the value of academic performance can be viewed as the present value of the student's grade point. By translating GP into a dollar amount, it is possible to measure GP and market goods along the same axis.

[6] Non-wage income also affects time allocation, however, for simplicity, this aspect is not incorporated into Figure 1. Prices, including the interest rate, also enter into the analysis by affecting the magnitudes depicted by the vertical axis.

[7] Arc TG is therefore a transformation of the academic performance function that strictly relates time and grade points.

[8] See Pappalardo (1986) for further details.

Table 1: Definitions and Mean Values for Variables Used in the Model

Variable	Definition	Full Sample	Non-Work Sample	Work Sample
AGE	Age in years	21.32	21.46	21.21
SATV	Verbal SAT score	611.46	610.58	612.10
HUM	Dummy Variable for Major (1 = humanities major, 0 = all other majors)	06	06	06
OTHMAJ	Dummy Variable for Major (1 = undeclared or double major, 0 = all other majors)	16	13	18
WKSTJOB	Dummy variable for job trait (1= work-study job, 0= other jobs)	21	-	36
TFAMINCS	Total Family income less sibling's tuition payments, measured in $10,000	7.26	9.63	5.54
ACTUALPC	Dummy Variable for family willingness to contribute amount expected by financial aid office (1 = parents likely to contribute expected amount, 0 = unlikely)	81	90	74
WORKT	Average weekly work hours	8.06	-	13.57
WAGES	Hourly wage in $	-	-	4.31
RESWG	Reported reservation wage in dollars/hour	-	30.11	-
RESWG2	Reported reservation wage in dollars/hour excluding 2 outliers	-	5.29	-
N	Sample Size	143	60	83

METHODS

Direct Approach

Students who did not work were asked the following question to get a direct estimate of their reservation wage rates:

> I have a hypothetical question for you. Please do the best you can with it. Suppose I have a sealed envelope with a mystery job description inside. The job is a part-time one which would enable you to attend all of your classes. What is the minimum hourly wage I would have to offer you to induce you to accept the job?

The Indirect Approach

The indirect approach for estimating reservation wage rates for non-workers, which is employed in this study, was first suggested by Heckman (1974) and has been used by Zick and Bryant (1983). A detailed description of the theoretical and empirical models underlying the technique is presented by Killingsworth (1986).

The model has three basic components. The first component, labor demand, is expressed in the following way for each student, i:

$$W_i = X_i\alpha + e_{wi} \qquad (1)$$

where: W_i = the market wage rate for person i
X_i = vector of variables that affect wages observed for i
e_{wi} = mean-zero error term representing the effects of unobserved variables on i's wage

The second component, the reservation wage function, is expressed as:

$$M^*_i = Z_i\beta + H_i\delta + V_i\theta + e_{mi} \qquad (2)$$

where: M^*_i = i's reservation wage
Z_i = vector of i's academic performance productivity determinants
H_i = hours of market work for i
V_i = non-wage income for i
e_{mi} = mean-zero error term representing the effects of unobserved variables on i's reservation wage

The reservation wage rate cannot be estimated directly when M^*_i is unobserved for non-workers. However, it is possible to estimate an hours of work function derived from the labor demand and reservation wage functions. This third component of the model can be expressed as the following:

$$H_i = 1/\delta\,(X_i\alpha - Z_i\beta - V_i\theta + e_{wi} - e_{mi}) \qquad (3)$$

The model is based upon the assumption that the wage rate (W) is unaffected by the hours worked (H)[9] while the reservation wage rate (M*) is affected by H. Reservation wage rate coefficients can be retrieved from estimates of equations (1) and (3) as long as at least one element of X is excluded from Equation (3).

Equations (1) and (2) are translated into the following estimated model:

$$\begin{aligned} WAGE = {} & a_0 + a_1(AGE) + a_2(SATV) + a_3(HUM) \\ & + a_4(OTHMAJ) + a_5(WKSTJOB) \end{aligned} \qquad (4)$$

$$\begin{aligned} RESWG = {} & b_0 + b_1(AGE) + b_2(SATV) + b_3(HUM) \\ & + b_4(OTHMAJ) + b_5(TFAMINCS) \\ & + b_6(ACTUALPC) + b_7(WORKT) \end{aligned} \qquad (5)$$

As shown in Figure 1, the reservation wage is equal to the market wage for workers. Hence, for workers, Equations (4) and (5) are equated to solve for hours of market work (WORKT), which yields the following:

$$\begin{aligned} WORKT = {} & c_0 + c_1(AGE) + c_2(SATV) \\ & + c_3(HUM) + c_4(OTHMAJ) \\ & + c_5(WKSTJOB) + c_6(TFAMINC) \\ & + c_7(ACTUALPC) \end{aligned} \qquad (6)$$

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[9] This assumption is plausible for this application because the respondents are part-time workers who probably do not face overtime work bonuses.

Reservation wage coefficient estimates can be retrieved because WKSTJOB is included in the market wage equation and excluded from the reservation wage equation[10]. A job characteristic variable was selected for identification because this is the only type of variable included in the data that would appear to affect market wages without directly affecting academic productivity (and hence reservation wages). Work-study employers do not have to pay the full offered wage because wages for work-study students are subsidized. I therefore thought that wages offered for work-study jobs might be higher than for non-work-study jobs. The model also requires that all variables in the market wage equation be included in the hours of work equation. Student's with work-study jobs were hypothesized to work fewer hours, on average, than other workers, *ceteris paribus*, because of the earnings constraint that is imposed upon them.[11] Hence, I believed that WKSTJOB should be included in the hours of work equation.

Equations (4) and (6) are estimated only for the sub-sample of workers. However, by employing Heckman's sample selection model (1979), the resultant parameter estimates can be applied to non-workers as well. The sample selection model requires that LAMBDA be included in both equations as an instrumental variable. LAMBDA estimates for each individual are derived from a labor force participation equation that is estimated via probit using the full sample. The parameter estimates for Equations (4) and (6) were obtained using the sample selection model procedure in LIMDEP.[12]

RESULTS

Direct Results

Non-worker responses to the reservation wage question yield a mean estimate of $30.11 per hour (with a standard deviation of 142.27.) The mean is substantially influenced by two students who maintained that excessively high wages would have to be offered to induce them to work.[13] When these two students are eliminated from the sample the adjusted mean is $ 5.29 (with a standard deviation of 2.89.)

Indirect Results

Results from the estimation procedure are presented in Table 2. Using the estimated reservation wage coefficients and data on non-workers, the mean value of time for non-workers is estimated to be $3.28 per hour and the standard deviation is .34.

Table 2. Paramater Estimates for Student's Market Wage and Hours of Work Equations, and Calculated Coefficients for the Reservation Wage Equation (t statistics in parenthesis)

Independent Variables	Dependent Variables LN(WAGE)^a	 WORKT	 LN(RESWG)
CONSTANT	.1478 (.619)	54.4064 (3.027)	.0009
AGE	.0424 (2.014)	-.6792 (-1.131)	.0442
SATV	.0005 (1.140)	.0251 (-1.881)	.0004
HUM	-.1411 (-1.030)	-.7304 (-.189)	-.1391
OTHMAJ	.2245 (2.788)	2.2291 (.901)	.2184
WKSTJOB	-.0196 (-.287)	-7.1578 (-3.440)	-
TFAMINCS	-	-.1877 (-.704)	.0005
ACTUALPC	-	-2.9628 (-1.174)	.0080
LAMBDA	.0523	-10.0226 (1.796)	-
WORKT	-	-	.0027
R^2	.14	.24	-
Adj R^2	.08	.16	-
F	2.13	2.95	-

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[10] Coefficients for the reservation wage equation were retrieved using the following relationships:

$b_0 = a_0 - b_7{*}c_0$
$b_1 = a1 - b_7{*}c_1$
$b_2 = a_2 - b_7{*}c_2$
$b_3 = a_3 - b_7{*}c_3$
$b_4 = a_4 - b_7{*}c_4$
$b_5 = -c_6{*}b_7$
$b_6 = -c_7{*}b_7$
$b_7 = a_5/c_5$

[11] For further information on the work-study earnings constraint see Pappalardo (1986).

[12] LIMDEP is a computer routine developed by William H. Greene, Department of Economics, Graduate School of Business Administration, New York University.

[13] Ferber and Green also found a few relatively high self-reported estimates.

Comparison

By comparing these estimates to available wages it is possible to examine how consistent the estimates are with the underlying economic model. Recall that according to the model, students who choose not to work do so because their own valuation of what their time is worth exceeds the market's valuation. Hence, if the estimated reservation wages equal or exceed the available market wages, then this would suggest that the underlying framework is sensible.

A summary of the wage measures appears in Table 3. At the time of the survey the minimum wage was $3.35 per hour. If jobs were available, then wages should have been available at rates greater or equal to $3.35 per hour. Respondent's own estimates exceed the minimum wage and the indirect reservation wage estimate is less than the minimum. However, $3.35 per hour is within one standard deviation of the indirect reservation wage measure. The results are therefore consistent with the underlying economic framework and suggest that these students are indifferent between working and other activities at the prevailing wages. In addition, when interviewing students I recall being surprised by the number of non-workers who stated that they would work for the minimum wage. This suggests that non-workers suffer from an inertia problem, perhaps do to high perceived costs of job search.

Table 3. Reservation Wage Estimates

	DIRECT		INDIRECT
	Without Outliers	Full	
MEAN RESERVATION WAGE	5.29	30.11	3.29
STANDARD DEVIATION	2.89	142.48	0.34
STANDARD ERROR OF MEAN	0.38	18.39	0.04

The mean market wage for workers is $4.31 per hour (the standard deviation is 1.91.) Both direct average reservation wage estimates exceed the average market wage yet the estimated average reservation wage is less. The estimated reservation wage measures are well within one standard deviation of the mean market wage for workers.

The results of this research are comparable to Ferber and Green's. Ferber and Green found that respondent's own estimates of potential market wages exceeded those derived from the Heckman technique. I find that respondent's own estimates of reservation wages exceed the Heckman technique estimates as well.

Ferber and Green also point out that the Heckman technique is based upon estimated equations with low R^2_s. The R^2 for the wage equations in this research (.14) is lower than Ferber and Green's (.31 and .25) but greater than that reported by Zick and Bryant (.07). Zick and Bryant's hours of work R^2 (.25) is comparable to the hours of work R^2 here (.24). Nonetheless, these equations only explain a small portion of the variation in wages and hours worked. Many variables are apparently excluded from these models: variables known to respondents but not to researchers. I am therefore inclined to believe that respondent's own estimates should be taken seriously.

Ferber and Green also note that the Heckman procedure is sensitive to the specification of the labor force participation and market wage equations. I found the technique to be sensitive to model specification, as well. A systematic examination of the effects of different specifications has yet to be conducted with these data.

The simple correlation coefficient between the direct and indirect reservation wage rates (for the full sample of non-workers) is only .10. Again, this is similar to Ferber and Green's comparison between direct and indirect market wage measures: their estimated simple correlations were .13 for a small sample of 131 women and .45 for a larger sample of 295 people. The low correlation coefficient suggests that the direct reservation wage question and the indirect reservation wage estimates are not measuring the same concept. Unfortunately, it is unclear whether one measure reflects true reservation wages better than another. If either measure truly captures reservation wages, then the results would suggest that there is a substantial difference between survey responses and respondent behavior.

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The sample used for this analysis is small and specialized. Using data on full-time students, the value of time for non-workers was estimated by (1) asking respondents to reveal their own reservation wage estimates and (2) using estimated coefficients from selection bias corrected regression for workers, and the characteristics of non-workers.

The mean of respondent's own estimates is quite sensitive to outliers, which suggests that I should consider how to treat outlier responses more carefully. It would be instructive to examine these observations more extensively within the regression diagnostics framework. When outliers are removed, the respondent's own estimates are more comparable to the Heckman estimates. Nonetheless, the low correlation coefficient suggests that the direct and indirect measures are not measuring the same concept. It would appear that one likely problem is the low explanatory power of the models. Important explanatory variables are undoubtedly omitted from the estimated equations. Another problem may stem from the small size and specialized nature of the sample. Although Ferber and Green compared indirect and direct estimates of a different variable, my results are quite similar to theirs. Both studies suggest (1) that the Heckman technique yields lower estimates than the direct approach and (2) that the correlation between direct and indirect estimates is quite low.

The results of this study are of a preliminary nature. With these data I plan further investigation of the effects of different model specifications. More general and more complete data, however, are needed to improve our understanding of what estimated reservation wage variables are really measuring. I therefore suggest that future researchers continue to ask respondents direct questions about reservation wage rates. Such information is necessary to replicate and improve comparisons of indirect and direct ghostbusting strategies.

REFERENCES

1. Marianne A. Ferber and Carole A. Green. "Homemakers' Imputed Wages: Results of the Heckman Technique Compared with Women's Own Estimates." *Journal of Human Resources* 20:1 (Winter 1985):90-99.

2. Reuben Gronau. "Home Production--a Forgotten Industry." *Review of Economics and Statistics*, 62:3 (1978):408-416.

3. James Heckman. "Sample Selection Bias as a Specification Bias." *Econometrica* 47 (January 1979):153-61.

4. James Heckman. "Shadow Wages, Market Wages, and Labor Supply." *Econometrica* 42:4 (1974):649-694.

5. Mark R. Killingsworth. *Labor Supply*. New York: Cambridge University Press, 1983.

6. Janis K. Pappalardo. "Financial Aid, Labor Supply-Study Time Trade-Offs, and Academic Performance Production: An Economic Analysis of Student Resource Allocation." Unpublished Ph.D. thesis, Cornell University, 1986.

7. Cathleen D. Zick and W. Keith Bryant. "Alternative Strategies for Pricing Home Work Time." *Home Economics Research Journal*, 12:2 (December 1983):133-144.

LIVING WITH DEREGULATION: THE ROLE OF CONSUMER ACTION GROUPS

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ABSTRACT

Consumer Action is a nonprofit consumer advocacy group whose primary concerns are the consumer services of the financial services and the telecommunications industries. For more than a decade, Consumer Action has specialized in the production of comparative pricing surveys. Surveys are conducted both to provide consumers with needed information for making decisions and to gather the data needed to spot problems within an industry. In addition, we encourage consumers to support legislation and regulations that will improve disclosure and, where necessary, put limits on rates that can be charged in the areas of financial services and telecommunications.

Consumer Action is a 16-year-old consumer advocacy organization. We are a non-profit membership organization with 2,400 members throughout California. Our primary concerns are the consumer services of the telecommunications and financial services industries. More specifically we are concerned as to how deregulation in these two areas have impacted low and moderate incomes consumers.

For more than a decade Consumer Action has specialized in the production of comparative pricing surveys. The philosophy behind consumer pricing surveys is remarkably simple. We believe that the optimum functioning of the marketplace depends upon fully informed consumers who carefully and knowlegeably weigh choices. But marketplaces have ways of veiling, even hiding, real costs: the goal of the shopping survey is to cut through marketing slogans and pretty images to present clear comparisons of costs and benefits.

Consumer Action conducts surveys for two primary reasons. First, to provide consumers with the detailed information that they need to choose those accounts which will best meet their needs at the lowest cost. But second, and equally important, to gather the data we need to spot problems within the industry.

We annually release four major surveys of California banks and savings and loans: loans, savings instruments, credit cards and checking accounts. Once a year we co-sponsor with the Consumer Federation of America a national banking survey which is conducted by CFA member groups throughout the country. Last year this survey contained information on 225 banks and savings and loans in 18 states and the District of Columbia.

In the telecommunications area we have focused our surveys on the factors that consumers should consider in a world in which they must now select a long distance carrier. We regularly look at a wide range of rate and non-rate differences that exist between the companies that offer equal access long distance service to California residential customers.

The public response to our surveys has been overwhelming. Media coverage by newspapers, radio and television has been extensive throughout California. While the electronic media tend to focus on the broad conclusions that we have reached, the daily newspapers often go one step further and print comparative charts that we have developed. Consumers who want additional information send us self-addressed, stamped envelopes for copies of our survey results. Last year we received nearly 20,000 such requests.

I would like to look at the banking and telecommunication industries separately.

As a grassroots consumer group we hear from many people who have problems in the financial marketplace. The two most common complaints we hear about this industry are that charges are too high and that it is very difficult to obtain facts about the costs and conditions of basic services. These are significant problems, because access to financial services have become an essential part of our survival for everyone in today's society.

When consumers seek information from financial institutions they face a series of hurdles set up by an industry seemingly oblivious to the need for complete pre-purchase disclosure. How are consumers supposed to learn about the fees and conditions of the accounts they are comparing? Full disclosure of such information never appears in radio or TV ads and only rarely in newspaper ads. Brochures often ignore the potential for charges or merely indicate that unspecified fees may be assessed under certain conditions. Branch personnel often have a difficult time presenting clear and accurate explanations of bank practices. When disclosures are mad they are often tied to unfamiliar and undefined terms. To compound matters, a lack of uniform terminology often makes comparing accounts at different institutions difficult.

Yet consumers' desire for such information, as measured by the response to pricing surveys by Consumer Action and other groups, is very strong. Today's consumer is increasingly aware of the need for full pre-purchase information, but when faced with the barriers to disclosure now found throughout this industry, many people throw up their hands and settle on the nearest institution.

Until the advent of deregulation, consumers at least had a fighting chance. For the most part, each institution offered a relatively small number of products and they were fairly similar to those offered by other institutions. The products themselves were fairly straight forward.

However, with deregulation this has changed. Banks and savings and loans are attempting to distinguish their products from those offered by the competition. The result has been a proliferation of new accounts, each unique and each loaded with features and conditions.

This development has not been accompanied by improvements in the delivery of pre-purchase information. Brochures and advertisements continue to be inadequate sources of information about the imposition of service fees and other key conditions. These findings might be forgivable if the industry had succeeded in improving the delivery of such facts at the branch level. Alas, it has been our experience that deregulation has compounded the difficulties experienced by branch personnel charged with explaining company policies.

Our preference as surveyors is to obtain information by calling branches of banks and savings and loans, posing as customers seeking to obtain loans or open accounts. This method has the advantage of providing us with the same information that is being provided to potential customers.

But this method of gathering information has proven impossible with banking deregulation. Our experience has shown that, in many cases, branch personnel cannot answer even the most basic questions. For example, the question of what balance is required to avoid service charges on a regular savings account, or even what that charge is, can be extremely difficult to have answered accurately. In one instance, which CA hopes was an extreme case, we called four branches of the same bank to find out whether it offered a SuperNOW; employees at two branches informed us that it did not have such an account; employees at the other two assured us that it offered the account.

One fact that is often particularly difficult to obtain is the annual yield on regular savings accounts--or any other kind of interest-bearing account. In many cases, branch personnel cannot give specific figures for the annual yield of their savings accounts. Such inquiries are even riskier when the subject is a figure likely to change with some frequency, such as money market accounts.

As a result of our experiences, we abandoned this method of gathering information. Instead, we now ask each institution to designate an executive who will provide us with official information on prices and services. While this is a method that suits our purposes as surveyors, it does not begin to meet the needs of consumers.

For loans the consumer can look to the Annual Percentage Rate to provide a standardized figure that incorporates all the finance charges connected with a loan. Using the APR it should be fairly easy for the consumer to compare loans offered by different institutions. But this is not always the case.

Several years ago while conducting one of our periodic surveys of auto loans we discovered that a number of institutions charged fees in addition to interest. This was bad enough but we also found that most of the banks and savings and loans that charged such fees did not include them in the APR they quoted over the phone to consumers doing comparison shopping. As some of the fees were as high as $100 or one percent of the loan, consumers were being seriously mislead.

This Spring, we are conducting home equity loans for the first time. With changes in the tax law, interest payments on most loans will no longer be deductible from a consumer's gross income for income tax purposes. But Congress did carve out a large exemption--interest on home loans. As a result, institutions are now pushing what are basically second mortgage loans with the credit extended being secured by equity in the home.

As basically new products, revolving credit home equity loans are being advertised seemingly with little rhyme or reason. Despite laws on the books that seemingly would require that the APR be stated in ads that speak of interest rates, many institutions are failing to do so. In other instances only the introductory, teaser rate is clearly disclosed. Already, we have begun to receive complaints from consumers who didn't know that the teaser rate would only last a few months.

But even with these problems, consumers shopping for loans are far better off than those seeking to place savings in an interest bearing account. There is no equivalent of the APR that has been developed to help consumers who are seeking such accounts.

Consumer leaders have long pointed to hidden dangers that can affect the actual return a consumer will receive from an interest-bearing deposit account. The best known factor is compounding, the effect of which is usually handled by disclosure of the annual percentage yield (APY). The effect of compounding is relatively minor compared to other factors that affect earnings. A 5.5% APY compounded quarterly will yield about 5.61%; monthly, 5.64%; daily, 5.65%. The difference between daily and quarterly compounding at 5.5% is about 40 cents per $1,000 per year.

Different methods of calculating balances on which interest is paid have a far greater impact on return. Most consumers assume that interest is paid on a day-of-deposit to day-of-withdrawal basis or on a daily balance basis. But interest may be paid on a minimum balance method, where interest is paid based on the lowest balance in the account on any one day of the month or quarter. The effect of this technique varies but can be far more significant than frequency of compounding.

But consumers have to consider more than just interest income. Interest yield is gross, not net income. In recent years, disclosure of account fees has become especially important in evaluating consumer accounts. For loans, the fees charged are supposedly factored into the APR. But for deposit accounts such items as low balance penalties stand alone. A person expecting a return of 6% might never be warned that after fees have eaten into his account he will only receive 1% -- or even lose money.

With deregulation has come yet another complication, tiering. On January 1, 1985, the minimum balance required to earn high interest on money market accounts and time deposit accounts dropped from $2,500 to $1,000; on January 1, 1986 the minimum balance requirement was completely dropped. On April 1, 1986 the ceiling on passbook savings account interest rates was lifted. The result of these changes is that banks and savings and loans are moving toward accounts in which both service fees and interest rates change at various balance levels. This has further hindered the ability of consumers to compare accounts.

1986 was touted as the year in which small savers would finally benefit from banking deregulation. But this has not been the case. Instead, small savers are being hit by higher service charges and bewildered by new accounts that may pay them less than their old savings accounts.

Our April 1986 survey of 82 California financial institutions reveals how the marketplace has changes. We found:

1. At many banks, consumers with less than $2,500 in savings could get higher interest in a regular savings account than in a money market account. Money market accounts were designed as higher interest savings instruments with limited check-writing privileges. However, many surveyed banks were paying 5.25% on MMAs with balances below $2,500 but 5.5% on regular savings accounts.

2. At about half of the surveyed banks, fees on MMAs with balances of $1,000 or less would exceed interest earned. Consumers who leave $1,000 untouched for a year could have net earnings that range from a loss of $90 to a gain of $70 at banks and a loss of $39 or a gain of $79 at savings and loans. Most banks and S&Ls have charges on MMAs that go below specified balance levels. In some instances the fees vary with the balance maintained in the accounts. Banks have charges of up to $2 a month; S&Ls have charges of up to $8 a month.

3. As of April, 1986 only two of the surveyed institutions were offering the higher rates made possible by the lifting of the interest rate ceilings on regular savings accounts. One paid 7.5% but no interest at all on balances of under $1,000 while the other paid 7.5% but charges a fee of $2.50 for each month in which the balance fell below $500.

4. Most of the banks and the S&Ls paid 5.5% on regular savings accounts while there was a much greater variation in money market account rates. The range at banks was 5.25% to 7%; the range at S&Ls was 5.25% to 7.5%. Many of the institutions had tiered rates with higher rates on larger balances.

With such variety in the marketplace consumers need accurate disclosure information to insure proper choice of accounts. It is clear from our surveying work and from consumers' experiences with inaccurate and incomplete information received from banking employees that voluntary disclosures have not and will not work. Voluntary disclosures cannot work because to be valuable the information must be presented in a consistent format and with consistent terminology in order to allow consumers to make informed choices.

Disclosure of the fees and conditions associated with deposit accounts is essential to consumer comparative shopping and for the proper functioning of the market. Legislation needs to be adopted that would contain the following:

1. All fees must be revealed. In addition, other conditions, such as balances needed to earn interest and methods of calculating balances, must be disclosed.

2. Terminology must be standardized so that consumers will know that the use of a given term at one institution will mean the same as its use at another.

3. The format of the disclosures must be in a form that is easy to understand and use by all banks and savings and loans. A simple, standardized chart would permit a consumer to readily compare different institutions. Special care should be taken to insure accurate disclosure of fees and interest rates on tiered savings accounts and MMAs, including net earnings figures for specified sample balances.

Adoption of these proposals would turn the financial marketplace into an arena where consumers would have a fair chance to select the products and services most appropriate for their needs. Unfortunately, consumer groups face a situation with elected bodies both at the national and state level where financial institutions have great influence through campaign contributions and well-funded troops of lobbyists.

We believe that part of our strength and that of similar groups in other parts of the country is the growing recognition by consumers that there are great differences between the offerings by individual banks and savings and loans. Until deregulation this was not the case. Checking accounts were either free or very low cost and interest rates paid on savings were tightly regulated.

Consumers became accustomed to signing up for banking services at the nearest institution and gave little thought to comparison shopping. But with deregulation there are benefits to be won for taking the effort to look into fees and interest rates charged by different banks and savings and loans.

The first job for consumer groups is to educate consumers to this fact. For example, ever since Consumer Action started surveying bank credit cards three years ago, we have received calls from consumers stating that they thought that all Mastercards were the same and all Visa cards identical. They didn't understand that banks offered their own cards and set their own credit criteria, fees and interest rates.

It is not a mystery why consumers are confused. Visa and Mastercard advertise heavily in newspapers, magazines and on television. The ads are generic and make it appear that there is but one card. Local banks compound this problem by devoting their advertising dollar to image ads that are designed not to inform the consumer about interest rates and fees but to promote the idea that their Visa Card or Mastercard is the one to have to gain status or accumulate gimmicks or gadgets.

As if this was not bad enough, many banks and savings and loans do not even put information as to interest rates, annual fees and the availability of grace periods on credit card applications. At least in California this ractice will soon stop as legislation was passed in the State Legislature last year forcing institutions to put such information on applications.

Our credit card surveys serve several purposes. First, they provide comparative information about different cards. Second, they help to educate consumers as to the sharp differences that do exist between products offered by different banks and savings and loans. Third, they provide publicity for low cost cards that the smaller institutions could never afford to buy. Fourth, they focus attention on those institutions that have failed to lower credit card rates at a time when the cost of providing such cards has dropped significantly over the last few years. Fifth, they provide us with the raw data that we need to press for new laws at both the state and national level. These purposes apply to the rest of our financial surveys as well.

Consumer Action believes that a major focus of local and state consumer groups that wish to focus on banking issues is to conduct regular and comprehensive financial surveys and release the results to the media and to individual consumers at no charge.

Interestingly enough we find that the same problems for consumers exist in the telephone industry. Dating back to 1-1-84, consumers have been confronted with having to make one decision after another about a service that they took for granted.

First, consumers had to decide whether they wished to continue to lease their phones or to buy their own. For many in the population, particularly seniors, this created a sense of uneasiness and even fear. Some felt that they were being forced to buy their phones. Others did not have the information that they thought they needed to make such a decision.

Many consumers simply assumed that all of the phones suddenly flooding the market were of the same quality as the phones that they currently had in their homes. People bought phones for $9.95 thinking they would not have to worry about getting a phone again only to learn they had bought the telecommunications equivalent of a disposable Bic lighter.

Next, consumers were hit with having to select a long distance carrier. This was even more fun because the Federal Communications changed the rules in the middle of the game. Early selection took place as consumers were led to believe that if they didn't affirminately select a carrier that they would remain with AT&T. Then, the FCC decided that if you didn't select that you would be allocated to a carrier. Some local companies even went back to people who thought the selection process was over and forced them to select all over.

Next, the FCC decided that the inside wire in our homes and apartments should be the rate payer's responsibility and left all of the loose ends up to the states to tie up. Left unresolved are such questions as how do you deal with common inside wires in an apartment building and who is responsible for the wires -- the renter or the landlord. If it is the renter can he or she remove them when they move? If it is the landlord why does the renter have to pay for a maintenance fee or for repairs?

In each of these three areas, the problems for consumers have been compounded because the regulatory and judiciary powers that decreed such changes take place did not insure that consumers would have the information they needed to make the required decisions in an informed fashion. This despite the fact that the decisions were in areas in which the average consumer had no experience.

With varying degrees of success consumer groups around the country attempted to fill the vacuum. I believe that Consumer Action was in the forefront of this educational effort so I would like to provide some detail as to what we have done over the last few years.

In late 1983 and early 1984 we attempted to provide consumers with as much information as possible on what the impact would be from the breakup of AT&T. As you might expect, to the degree that the information was abstract and theoretical it did not have that much impact. We were much more successful in speaking to the factors that a consumer needed to consider in determining whether or not to buy the phone in the house and using that choice as a way to talk about the larger issue.

Consumer Action put out fact sheets, spoke at a number of conferences and participated in a number of radio and television talk shows that dealt with the breakup and with the lease-purchase question.

But at least, the question of the purchase of a phone dealt with a concrete product and to some degree consumers were able to deal with the issue as they might with any other highly important appliance. But the next hurdle, that of selecting a long distance carrier, was far more difficult.

It is true that a very small portion of the population were already using MCI or Sprint or SBS by dialing in long access codes. And they were reaping significant savings over AT&T. But the vast majority of the population had never considered leaving AT&T.

The Bell operating companies were directed to send ballots to all of their customers but were not ordered to provide any comparative information or even any tips on what factors should be considered in picking a long distance company. In California we believe that consumers had more information than in most parts of the country.

Consumer Action pulled together a loose coalition of consumer groups to sponsor a "Shoppers Guide" that was funded by Pacific Bell and sent to its customers along with the ballot that was to be used to pick a carrier. Consumer Action helped to write the "how to" section and on a quarterly basis has surveyed all equal access companies in California on a range of non-rate factors. Included in the Guide is information on how to get further information from the consumer groups that sponsored the Guide.

Pacific Bell determined that it would not be able to include rate information in the Guide. Unfortunately, this is the information that most consumers want when making a selection. However, we were able to get Pacific Bell to include in the Shoppers' Guide who consumers could get this information from and Bay Area Consumer Checkbook.

Consumer Action has surveyed the rates of equal access long distance companies since the Spring of 1985. We include information on rates for specific in-state, out-of-state, and international calls as well as information on rate bands and travel features. We conduct surveys each time there are significant rate changes in the marketplace.

Our most recent survey looked at rates that were effective as of March 1 of this year and reflected AT&T's FCC ordered rate reductions that went into effect January 1 and the subsequent responses by the other carriers. At the same time we called the major long distance companies posing as consumers who were calling up to ask how their rates compared with other carriers.

We found some very interesting contrasts which we believe point out the problems faced by consumers in a period of rapid deregulation and the challenge faced by consumer groups and others interested in insuring that consumers are able to make informed decisions.

Fairly consistently over the last several years, public opinion polls have found that consumers believe that AT&T's rates are between 18 and 20 percent more expensive than those of companies such as MCI and Sprint. I think there are several reasons for this. Certainly, before equal access went into place MCI and Sprint were limited to inferior connections and were able to pass on their cost savings to their customers who were willing to dial the extra string of numbers to make a long distance call.

Second, MCI and Sprint have even fairly recently used direct mail pieces that promised savings of up to 30 or 35% compared to AT&T. In addition, when we called up MCI and Sprint posing as consumers saying we were considering switching from AT&T and wondering what savings we could expect we were repeatedly told that we could get savings of 30% and more.

On the other hand, AT&T has chosen not to focus on rates. Certainly, in years past this made sense as its rates were significantly higher than those of its competitors. When we called AT&T posing as potential customers, their service representatives would not make generalized savings claims or make comparisons but would only provide us with what they would charge for a specific call.

So how did the public perception of AT&T's being 18-20 percent more expensive and MIC's and Sprint's claims of savings of 30-35% stack up to our survey results? For our comparison we looked at four test calls of varying lengths within the state and four such calls that went out-of-state and checked to see what the charges would be for those calls during the day, during the evening and during the night or weekend. The information was taken from survey forms that the carriers filled out for us.

We thus were able to compare what the total cost would be for 24 calls. AT&T Long Distance charged $42.57; ITT Longer Distance, $42.00; MCI $41.52; US Sprint, $41.50; and Allnet, $41.32. The range between AT&T and the least expensive was only $1.25 compared to $6.11 in May of 1985. On some of the calls, the rates were nearly identical among the carriers. But here too the advertising and other disclosures have failed to provide the consumer with accurate, helpful information.

Our next task is to encourage those consumers who have requested surveys to take the next step -- support of legislation and regulations that will improve disclosure and where necessary, put limits on rates that can be charged.

In the financial area we are currently supporting the following:

1. Sharp limits on the length of time that a bank or savings and loan can limit access to funds contained in checks that are deposited into a checking account.

2. Improved credit card disclosure.

3. Caps on credit card interest rates.

4. Mandatory cashing of government checks for non-customers.

5. Prohibition of requiring a credit card to open a checking account.

6. Lifeline/baseline checking accounts that would provide basic banking services to low income consumers.

7. Truth-In-Savings disclosure.

In telecommunications we support:

1. Lifeline local telephone service which will combine low monthly rates with a waiver of deposits to start service and discounted charges for installation.

2. A rollback of the FCC ordered access charges.

3. Flat rate local service must always be an option.

4. Affordable rates for local and long distance service.

5. Maintenance of inside wire should revert back to the local telephone companies.

6. Deposits for local service should not be based on long distance charges which the local company does not provide.

We believe that even though we have a small staff of four and an annual budget of roughly $75,000 that we have been able to have a major impact in banking and telecommunication in California. The impact has come primarily through the excellent media coverage that we receive. CA releases eight to ten banking and telephone surveys each year which receive extensive newspaper, radio and television coverage throughout the state.

While each survey during the year focuses on a different aspect of banking or telephones each survey has a common theme: there exists very significant differences between products offered by different institutions which can result in very real savings for those consumers willing to shop around. Consumer Action believes these are equally important.

FAMILY LIFE CYCLE CHANGES IN MONEY MANAGEMENT: NEWLYWED FAMILIES AND FULL-NEST FAMILIES

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ABSTRACT[2]

This study investigated family money management (i.e., the regular handling of family finances and the planning of spending and savings). Longitudinal data were used to compare money management of newlywed and full-nest families. Wives in full-nest families were more likely to be responsible for paying bills than wives in newlywed families. Further, responsibility tended to be joint for decisionmaking money management tasks.

INTRODUCTION

Family money management, that is, the regular handling of family finances and the planning of spending and savings, is one of the family's basic economic functions. How money is managed often makes a difference in whether a family lives well or not. Recent changes in tax laws and deregulation of various industries have necessitated changes in financial management for many families. As consumer educators help families in making financial decisions, it is important for these professionals to know how families handle money management decisions and tasks. Knowing who makes these decisions and handles these tasks within the family is especially useful. The money manager is the best source of information about family financial data [6].

Financial counselors, too, need to know who is involved in family money management. By facilitating husband-wife communication about money, they help couples to make decisions about responsibility for money management tasks [13]. It is generally acknowledged that the pattern of money management has a strong impact on the marital relationship [4,5,8,13], with disagreement over finances cited as one of the leading contributors to divorce [3] and a frequent complaint of divorcing couples [9]. Understanding more about family money management, then, is an important contribution to understanding marital stability, which ultimately could lead to a lower divorce rate related to money, fewer arguments about money, and happier families.

Stampfl [12] suggests that it is important to study consumer behavior in a longitudinal framework because such behavior is not static. Families have different consumer problems and financial management concerns at each life cycle stage. For example, newlyweds need to develop skills in recordkeeping, handling complex budgets and complex decisions, jointly rather than individually. By the time the family reaches the full-nest stage, only complex decisionmaking continues to be a marketplace skill for development. Strategies for recordkeeping and budgeting appear to have been negotiated and institutionalized by the full-nest stage, according to Stampfl's framework.

Because family money management is likely to vary over time, longitudinal, rather than cross-sectional, analysis is a better approach and should add considerably to knowledge about family money management. Such knowledge is important in developing public policy and educational programs designed to help families as they experience change in their lives. Thus, the objective of this research is to compare money management of newlywed families and families in the full-nest stage of the family life cycle. Money management is examined in terms of (1) getting cash to use, (2) deciding how much cash to get, (3) paying the bills, (4) deciding how to spend surplus money, and (5) handling incidental expenses. Newlywed families are defined as recently married couples who are engaged in establishing a household. Full-nest families are those in which the household has been established for some time following several years of expanding income and expenses. In most cases, children are present.

PREVIOUS WORK

Couples handle money management tasks either jointly or individually with the husband or the wife assuming primary responsibility. In the latter, it is suggested that families engage in role specialization [2]. Such role specialization helps to avoid marital conflict. Ideally, this contributes to marital satisfaction and diminishes the probability of divorce.

In a longitudinal study comparing happily married couples and divorced couples, Schaninger and Buss [11] found greater role specialization in money management among happily married couples than among couples who eventually divorced. The assumption was that initial decisions made about money management would predict subsequent marital happiness and divorce status. Allocation of responsibilities during the first year of marriage was used to measure role specialization,

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but no attempt was made to investigate any changes in who handled the money management tasks in subsequent years even though the data were available. Marital status, on the other hand, was measured 10-1/2 years later. Couples were judged to be happily married if both husband and wife reported they were very satisfied with their marriage. Divorced couples were those who obtained a divorce at any time during the study. Length of marriage varied for all couples as a result. Among the happily married couples, responsibility for various money management tasks was more frequently role specialized than it was for those who subsequently divorced. When decisionmaking was not joint, husbands were more likely to dominate in couples that eventually divorced; whereas, wives were more likely to dominate in happily married couples. Thus, wives in happily married couples were more likely to have input to money management decisions than were wives in couples that eventually divorced. Possibly, this factor is just as important as role specialization in diminishing marital conflict and divorce. In fact, consumer educators advise that money management is more successful and has less conflict when both husband and wife have input to the financial decisionmaking process.

Another possible explanation is that couples make conscious decisions to specialize in certain tasks. They might have an equality/equity orientation in which both spouses expect to share equally or equitably in money management [11]. But, they decide to allocate tasks to a certain individual to maximize use of their resources. One person might have more time to devote to the task than the other; or, the two might have differing abilities for various money management tasks. This division of labor within the family is consistent with utility theory [1]. Such an explanation has some support from a previous study. Ferber and Lee [7] created a variable, family financial officer, from three money management tasks and investigated family purchasing behavior. Results indicated that the family financial officer tended to be the couple acting jointly in the first year of marriage. During the second year, the percent of families with the couple acting jointly decreased, but remained the largest category. Thus, there appeared to be initial joint money management in a newly married family with changes to individual money management beginning by the second year of marriage.

Whether this pattern of role specialization continues throughout the family life cycle has not been investigated on a longitudinal basis. In a cross-sectional study, however, Rosen and Granbois [10] found that individual, rather than joint, money management increased with the number of years married. As in the Ferber and Lee study [7], the dependent variable was a composite of several money management tasks but different tasks than Ferber and Lee used. Rosen and Granbois measured implementation decisions, such as bookkeeping and other paper-handling tasks, and actual decisionmaking activities, such as decisions about spending and saving. Schaninger and Buss [11] analyzed the money management tasks separately.

In this study, it is hypothesized that families in the full-nest stage, compared to newlywed families, will exhibit more specialization in money management. It is assumed that families specialize in money management roles in an effort to maximize use of their resources.

METHODOLOGY

Data

Data used in this study were from "A Panel Study on Consumer Decisions and Asset Management" and were collected by the University of Illinois Survey Research Laboratory with Robert Ferber and Francesco Nicosia as the principal investigators. This data set contains financial, demographic, personality, and expenditure variables. Personal interviews and self-administered questionnaires were used to collect data for the 18 waves, beginning in summer 1968 and ending in spring 1981. The time periods between waves varied due to funding availability. Only data from the first and last waves are used in this study.

The sample consisted of a panel of young, newlywed couples, living in Peoria or Decatur, Illinois and who were married in these cities in the summer of 1968. The initial sample size was 311 couples, with the husband aged 30 years or younger. Due to attrition, panel size in 1981 was 209 which included intact families, divorced families, and remarried/blended families. Given the purpose of this study, only the intact families were used; final sample size was 140 couples.

Variables

Five different money management variables were measured in both the first and last waves of data collection. These variables measured who had the main responsibility for: (1) getting cash to use, (2) deciding how much cash to get, (3) paying the bills, and (4) deciding the disposition of surplus money. These variables were coded as husband, wife, or both. The fifth variable measured how incidentals (lunch money, cigarettes, bus, etc.) were handled and answers included husband's allowance, both allowance, and neither on allowance. Creation of the family financial officer variable used by Ferber and Lee [7] was considered. However, there were differences in data collection for the variable, who keeps track of expenditures, in the two waves, and this created difficulty in constructing the composite measure without eliminating a sizeable portion of the sample. For this reason, the variable was not included in this analysis at all.

FINDINGS

Sample characteristics were examined. In the first wave, the husband's mean age was 23 years, and the wife's age was 21 years. Median education for both husbands and wives was high school graduate. Ninety percent of the husbands were employed full-time in the first wave, and slightly more than 95 percent were employed full-time in wave 18. For the wives, slightly less than 70 percent were employed full-time when first married while slightly less than 55 percent were employed full-time in the full-nest stage. Couples had an average of two children in this latter stage.

Each of the variables was tested using chi-square analysis to determine whether there were significant differences between the two life cycle stages (Table 1). Results indicate that there were differences in responsibility for all but one of the money management tasks. There was no difference in how incidentals were handled.

The most significant difference ($p \leq .001$) was for the variable, who looks after paying the bills, with the percent of wives as the responsible individual increasing from 36 percent for newlyweds to 60 percent for full-nest wives. Both husband responsibility and joint responsibility declined. The percent of families with husbands responsible for paying the bills decreased from slightly more than 30 percent to slightly less than 20 percent. Joint responsibility accounted for almost 35 percent of the newlywed families and only slightly more than 20 percent of the full-nest families. This pattern was different for the other three significant variables. For these variables, joint responsibility and wife responsibility increased while husband responsibility decreased.

TABLE 1. Crosstabulations and Chi-Squares for Money Management Tasks of Newlywed Families and Full-Nest Families.

Item	% Newlywed Families (n=140)	% Full-nest Families (n=140)	χ^2
Who looks after getting cash?	(n=138)	(n=138)	
Husband	31.2	10.1	11.31*
Wife	22.5	31.2	
Joint	46.4	58.7	
Who decides how much cash to get?	(n=136)	(n=136)	
Husband	33.1	15.4	16.78**
Wife	13.2	16.9	
Joint	53.7	67.6	
How are incidentals handled?	(n=133)	(n=133)	
Husband allowance	1.5	3.0	1.57
Both allowance	24.8	22.6	
Neither on allowance	73.7	74.4	
Who looks after paying bills?	(n=140)	(n=140)	
Husband	30.7	19.3	19.70***
Wife	35.7	60.0	
Joint	33.6	20.7	
Who decides disposition of surplus money?	(n=135)	(n=135)	
Husband	14.1	7.4	15.87**
Wife	4.4	8.9	
Joint	81.5	83.7	

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*$p \leq .05$
**$p \leq .01$
***$p \leq .001$

Overall, the hypothesis that families in the full-nest stage compared to newlywed families will exhibit more specialization in money management was not supported. When individual money management tasks were examined, however, the variable accounting for the most significant difference between the two stages, who looks after paying the bills, supported the general hypothesis. In the full-nest stage, role specialization for the bill-paying task was much greater than in the newlywed stage with wives more likely to specialize in this role than husbands.

DISCUSSION AND IMPLICATIONS

Role specialization seems to exist for at least one money management task, paying the bills. Professionals who need to know information about household expenditures can expect to obtain information about these from wives because they are more likely to have paid for the expenses. Why wives assume this responsibility is of interest to other professionals but is beyond the scope of this study. It is possible that paying bills is viewed as a type of clerical task, while other tasks are viewed as decisionmaking. Once decisions already have been made on how to spend the money, the task can be more readily delegated to the individual with more time to do it. In the full-nest stage a smaller percent of wives were employed outside the home than in the newlywed stage. Paying bills could be part of the full-time homemaker role. Further investigation of this aspect of family money management is underway.

Joint responsibility for money management tasks tends to increase over the life cycle which is inconsistent with what others have suggested. Rosen and Granbois [10] used only cross-sectional data, and Ferber and Lee [7] examined money management in the first and second years of marriage only. In this latter study, joint decisionmaking was the largest category even though individual decisionmaking increased by the second year. In both of these studies, the dependent variable was a composite of several money management tasks. Possibly, such a composite measure does not represent responsibility for money management tasks accurately. Thus, the results of the present study are more appropriate than previous studies to explain the responsibility for separate money management tasks of families moving through the life cycle. Further research is planned to test the convergent validity of the variables used in this study and others available in the data set. This procedure should help to clarify the findings of this study in relation to previous research.

One important contribution of this study is the investigation of the way families make changes over time, especially during years when important societal changes in male and female roles were being made. Traditionally, women have been perceived as having little input to family money management. Actual input seems to vary by type of money management task and family income level. With recent role changes, more input by wives would be expected. This study suggests that wives, either through individual or joint decisionmaking, potentially have greater input to some money management tasks than husbands. Whether this increase is due to life cycle stage or role changes within the family is not known.

Most importantly, these results indicate that consumer educators and financial counselors need to be aware that husbands and wives are likely to handle money management tasks jointly. They can, however, be helped to discern which tasks can be delegated to one individual to maximize their resource use. For example, one person can pay the bills while the other person gets the needed cash. What tasks can be delegated and how to divide tasks to maximize resource use, yet preserve joint input to money management, is an important area for further research.

REFERENCES

1. Becker, Gary S. *A Treatise on the Family*, Cambridge, MA: Harvard University Press, 1981.
2. Blood, Robert O. "*Resolving Family Conflicts*." Journal of Conflict Resolution, 1960, 4:209-219.
3. Blood, B. and Blood, M. *Marriage*, New York: The Free Press, 1973.
4. Blumstein, P. and Schwartz, P. *American Couples*, New York: William Morrow and Co., 1983.
5. Colman, Carol. *Love and Money: What Your Finances Say About Your Personal Relationships*, New York: Coward-McCann, 1983.
6. Ferber, Robert. "Family Decision Making and Economic Behavior: A Review," in Eleanor B. Sheldon (Ed.), *Family Economic Behavior: Problems and Prospects*, Philadelphia: J. B. Lippincott Co., 1973.
7. Ferber, Robert and Lee, Lucy Chao. "*Husband-wife Influence in Family Purchasing Behavior*." Journal of Consumer Research, 1974, 1:43-50.
8. General Mills. *The General Mills American Family Report, 1974-75*, Minneapolis, MN: General Mills, 1975.
9. Kitson, Gay C. and Sussman, Marvin B. "*Marital Complaints, Demographic Characteristics, and Symptoms of Mental Distress in Divorce*." Journal of Marriage and the Family, 1982, 44:87-101.
10. Rosen, Dennis L. and Granbois, Donald H. "*Determinants of Role Structure in Family Financial Management*." Journal of Consumer Research, 1983, 10:253-258.
11. Schaninger, Charles M. and Buss, W. Christian. "*A Longitudinal Comparison of Consumption and Finance Handling Between Happily Married and Divorced Couples*." Journal of Marriage and the Family, 1986, 48:129-136.
12. Stampfl, Ronald W. "*The Consumer Life Cycle*." Journal of Consumer Affairs, 1978, 12:209-219.
13. Williams, Flora. "Research in Financial Counseling and Contributions from Selected Studies," in *Proceedings of the Financial Counseling and Planning Consortium*, Provo, UT: Brigham Young University, 1983.

CHANGES IN CONSUMPTION MANAGEMENT DURING UNEMPLOYMENT THEIR IMPACT ON ECONOMIC SATISFACTION

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ABSTRACT

Numerous studies have shown that unemployment and job uncertainty contribute to varying levels of change in financial well-being (2,13,18,21). In response, the family members frequently report that they or other members of their family make a variety of changes in their consumption management with the hope that their financial vulnerability to the unemployed situation will be lessened (2,3,13,21). Little research has been conducted to address the impacts of these consumption changes on family economic well-being. The purpose of this research is to address, at least in part, the impact of family economic well-being.

CHANGES IN CONSUMPTION MANAGEMENT

Families respond in a variety of ways as they experience changes in their financial situation. The literature concerned with these changes includes studies of families as they "cope" with inflationary as well as recessionary environments (2,3,4,5,6,16,21). A large number of the changes implemented are directly concerned with the allocation of reduced real income to the family's consumption needs. These changes include expenditure cutbacks, increases in self-reliant behaviors, changes in shopping practices and store selection, and implementation of plans for budgeting money and paying bills. Other changes are concerned with finding ways to bring more money into the family budget. To this end, families have reported income raising strategies and increases in credit use.

One of the most frequently reported adjustments to economic change reported in the literature has been the curtailment of expenditures (2,3,4,5,21). The list of expenditure items ranges from the basic needs of food and clothing to luxury expenditures for vacations, automobiles, and entertainment. Expenditures for nonessentials are usually the first to be reduced or eliminated. As the period of unemployment or economic uncertainty increases, many families also report reductions of expenditures for many of the basic needs. In an attempt to maintain the lifestyle enjoyed previous to unemployment, however, some families choose not to decrease consumption but rather to increase their use of credit (2,4). These families borrowed from other family members as well as from financial institutions.

Families also reported adjusting to a changed economic situation by changing their shopping behaviors. Shama (16) reported that, during the period of the 70's stagflation, those families who were able to alter their buying patterns were best able to "cope" with the problems of that time. Participants in his study reported major changes in shopping behaviors such as comparison shopping, bargain hunting, and looking for product durability. Additionally, Shama noted considerable increases in shopping at discount and wholesale stores.

Self-sufficient behaviors also increased in response to unemployment. Increases in the number of family members performing home repairs and other do-it-yourself tasks were reported by by families during the depression (5), as well as families experiencing more recent economic changes (2,6). Families were also likely to make attempts at alternative ways of increasing income such as taking odd jobs or having another family member work. Finally, families frequently reported the need to revise their budgets. New budgets and special plans to get bills paid were critical aspects of coping with unemployment. Voydanoff (21) noted that the importance of effective financial management increased as financial resources dwindled.

ECONOMIC SATISFACTION

Moen (14) and others have suggested that indicators of family economic well-being should not be based solely on objective measures such as income and net worth. Rather, they have suggested that subjective measures of economic well-being, such as satisfaction with one's economic or financial situation, are an important component in assessing overall economic well-being. Some researchers have stressed that subjective economic measures may be equally as important in indicating overall economic well-being as are objective economic measures (10,23).

Measures of satisfaction, in general, represent the relationship between aspirations and reality (17). Economic satisfaction, therefore, may be said to represent the relationship between the objective resources of economic well-being and acceptance of the allocation of those resources, within constraints, to the needs, wants, and goals of family members. As resources are increased or decreased, adjustments are made in their allocation. A measure of economic satisfaction, therefore, can provide an indication of the respondent's perception of the ability of the family to fulfill the function of meeting family needs and goals. The question relative to unemployment which arises then is the extent to which certain consumption management practices lead to satisfaction or dissatisfaction with their overall well-being. Little research is available to help us answer this question.

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It is quite tempting to predict that a family successful in staving off severe financial problems would have a sense of accomplishment and would experience higher levels of economic satisfaction. Due to the fact that these changes occurred in response to unemployment of the primary breadwinner, however, one must recognize the potential disequilibrium that these changes may indeed cause. Systems theory would suggest that such disequilibrium may, at least initially, result in lowered levels of perceived satisfaction.

Gurin and Gurin (7) noted, however, that making predictions concerning economic satisfaction may be difficult. Those who implement changes and accommodate easily and quickly to these changes may report higher levels of satisfaction, whereas those who feel out of control may report greater dissatisfaction. A feeling of being out of control may arise either from being unable to identify or make changes or as a result of displeasure with the changes that were made. From a slightly different perspective, Gurin and Gurin also noted that those who have a sense of personal control may see potential for improvement and as a result, may report greater dissatisfaction.

Rettig (15) found that families having made changes in their consumption management due to inflation were especially likely to report unhappiness with their situation if they had high rather than low incomes. Elder (5) noted a similar response by higher income families during the depression. He concluded that the greater the relative loss, the greater the dissatisfaction.

The purpose of this study was to explore the influence that changes in several types of consumption management have on an individual's satisfaction with his/her economic well-being. The impact of changes in seven consumption management strategies were to be addressed. Those included income raising, planning, credit use, self-reliance in consumption, shopping practices, store selection, and expenditure cutbacks.

METHODOLOGY

Research Design/Instruments

This sample was from a small mining town in Arizona. This particular mining town was selected for an intensive study of families who had recently experienced the unemployment of the primary breadwinner due to major layoffs from a copper mine. The sample was made up of those families who remained in the town following the layoff and those who moved within three months of the layoff. The couples who remained in the town participated in an interview and completed questionnaires. The couples who had moved completed only the questionnaires.

In order to select those families remaining in the town, the telephone directory was used to randomly select the sample. Based on a random start, every tenth phone number was called to determine willingness of the household to participate. This procedure was continued until a total sample of twenty-five families experiencing unemployment was found. Limited resources of time and money restricted the size of the sample. Using a sample of twenty-five couples allowed the researchers time for the interviews and also allowed the project to pay each husband and each wife ten dollars for participating. Husbands and wives were interviewed together for approximately one and one-half hours. Upon completion of the interview, two identical questionnaires were left; one for each the husband and wife to complete independently and return to the investigator in separate preaddressed, stamped envelopes. Payment of ten dollars was made upon receipt of the completed questionnaire.

In order to select those participants who had moved from the town, letters were sent to all names listed in the telephone directory with the exception of the names of those persons who had participated in the interviews. The letter was a request for volunteers to complete the questionnaires. If the families had moved within the last three months due to unemployment and if both husband and wife were available and willing to complete a separate questionnaire, the respondents completed a one page form indicating their new address and their willingness to participate. Questionnaires similar to those completed by the sample who had moved were sent immediately upon indication of the agreement to participate. Twenty-two families participated by returning the completed questionnaires. Payment of ten dollars was sent to each person completing the questionnaire.

One year after the initial layoff, follow-up questionnaires were sent to all 88 participants of the original study. A return of 77 percent was realized. The thirty-four couples (68 individuals) who participated in both phases of the study comprise the sample of interest for this paper in order to perform an analysis which included questions from both the initial and follow-up questionnaires. Follow-up questions allowed assessment of economic satisfaction and changes in consumption management one year following the initial layoffs.

Sample

The 68 participants of this study were primarily in their early thirties, over sixty percent were in their first marriage, and they had been married to their present spouse an average of 10.5 years. All couples were married and the families had an average of two children. Greater than 80 percent of the sample had at least a high school education, with about half having some college. Previous to the layoff, approximately 70 percent of the families had one member, primarily the husband, working outside the home; the remaining families had two or more employed members. The average household income for the year previous to unemployment was $37,000. On average, these husbands and wives reported that they would need approximately $26,000 per year to live comfortably. The average reported income appeared to meet this standard. In addition, for those families providing asset and debt information, the families appeared to be solvent. The average dollar value of savings and investments was $33,000 and the average debt level approximately $7,500.

Changes in Consumption Management

Behaviors concerned with changed consumption management were identified from the literature as potential responses to the experience of unemployment and/or reduced purchasing power as a result of inflation. Categories of responses identified in the literature included income raising (2,3,4,22), self-reliance in consumption (1,2,8,9,11,13), shopping practices (12,16), store selection (16,19), planning for expenditures (22), credit use (4), and cutting back on expenditures (2,4,5,31). Specific items for inclusion in the questionnaire were selected directly from the literature or were designed by the researchers as needed. Respondents were asked to indicate, using a six point Likert-type scale from strongly agree to strongly disagree, the extent to which they agreed that unemployment contributed to the identified change. Responses were coded by assigning a zero to strongly disagree through 5 for strongly agree. Seven consumption management strategies based on the literature were identified. They included making plans, self-reliance, shopping practices, store selection, income raising, and credit use. The seven management change scores were calculated by computing the average score across all items in each category.

Economic Satisfaction

The measure of economic satisfaction used in this research consisted of a summed score of the responses of participants concerning their satisfaction with level of income, money available for family necessities, ability to handle financial emergencies, amount of their debt, level of savings, and money available for future needs of the family. Responses were indicated and coded using a six point Likert-type scale from extremely dissatisfied, coded zero, to extremely satisfied, coded five. A total economic satisfaction score was obtained by summing across the six items. The identical economic satisfaction measure was used during both the initial (time one) and follow-up (time two) phases of the study. Economic satisfaction scores from the initial phase were used to control the level of economic satisfaction previous to implementation of changes in consumption management.

FINDINGS

Findings will be presented in two steps starting with a description of the changes in consumption management that husbands and wives reported were made by their families in response to unemployment. This description will be followed by the findings of the multivariate analysis of the relationship between the categories of consumption management and economic satisfaction one year after the initial layoff. Stepwise multiple regression allowed the researchers to control for the level of economic satisfaction at the onset of unemployment and previous to implementation of the consumption management changes. The additional contribution of the change in consumption behaviors to economic satisfaction can then be determined.

EXTENT TO WHICH HUSBANDS AND WIVES REPORTED CHANGES IN CONSUMPTION PATTERNS DUE TO THE EXPERIENCE OF UNEMPLOYMENT

Tables 1 and 2 indicate that the greatest consumption changes occurred in planning, self-reliance, shopping, and cutback behaviors. Over 70 percent of the sample reported that they had formulated a new budget and had devised a special plan for getting bills paid. A similar percentage reported increases in family members doing their own repairs and performing other do-it-yourself activities. Couples also reported that their shopping practices had changed considerably. Greater care was taken by comparing prices and products, shopping for specials, and looking for product durability. Additionally, more shopping was done in wholesale and discount stores. Fewer families reported changes in the use of credit and borrowing to pay bills. Couples also refrained from asking for an increase in financial support from relatives. It must be noted, however, that while there were fewer reports of changed behavior, nearly one-third did increase their credit use at least to some extent. Similarly, fewer families reported an increase in taking odd jobs or having other family members start working. Husbands and wives also reported expenditure cutbacks in all categories. Expenditures in food, gas and medical care were least impacted; while luxuries, vacations, auto purchases, and leisure activities were hit the hardest.

MULTIVARIATE ANALYSIS

In order to determine the most significant contributors to the measure of economic satisfaction one year following unemployment, a multivariate regression was performed to control the level of economic satisfaction previous to the implementation of changes in

Table 1. Percentage of Husbands and Wives Reporting Changes in Consumer Management Practices Due to the Experience of Unemployment.

	Husbands (N=34) %				Wives (N=34) %			
Management Practice	SA*	A	D	SD	SA	A	D	SD
Planning								
Devise a plan for paying bills	--	74	24	3	6	65	21	9
Plan a new budget	6	71	21	3	6	68	21	6
Self-reliance								
Do-it-yourself	24	56	12	6	9	71	18	3
Do own repairs	35	41	15	9	30	41	24	6
Shopping Practices								
Change purchasing habits	21	74	3	3	21	74	3	3
Judge products in a new way	21	68	9	3	27	59	9	6
Become a comparative shopper	18	71	9	3	32	65	3	--
Discuss purchase decisions more	21	59	12	9	15	59	21	6
Shop for specials and bargains	35	53	6	6	41	44	15	--
Look for product durability	27	62	9	3	24	59	17	--
Be more careful with money	47	44	6	3	27	74	--	--
Store Selection								
Shop in wholesale outlets more	12	50	29	6	15	41	41	3
Shop at discount stores more	15	53	26	6	18	38	41	3
Income Raising								
Another family member starts work	6	18	41	32	9	18	41	30
Family members take odd jobs	6	26	38	24	3	21	35	41
Credit								
Use more credit	6	21	41	32	9	12	50	30
Borrow to pay bills	6	12	35	47	6	9	35	50
Look to relatives for support	6	9	38	47	3	21	35	41

*SA - Strongly Agree

A - Agree

D - Disagree

SD - Strongly Disagree

consumption management. This was accomplished by forcing the economic satisfaction measure collected at time one (immediately following unemployment) into the regression equation before changes in consumption management were allowed to enter the equation. The measure of economic satisfaction at time one was not a strong predictor of economic satisfaction one year later. The question which was of primary interest, however, was the extent to which changes in consumption management further influenced economic satisfaction at time two. Results of the multivariate analyses are reported in Table 3.

For both husbands and wives, the extent to which borrowing increased was the strongest predictor of the economic satisfaction one year after first becoming unemployed. For wives, credit use was the sole significant variable and accounted for 22 percent of the variance beyond the time one measure of economic satisfaction. Behaviors to increase income such as taking on odd jobs and having another family member start to work was an additional significant predictor for economic satisfaction for husbands. Together, credit use and income raising accounted for 49 percent of the variance in

Table 2. Percentage of Husbands and Wives Reporting Expenditure Cutbacks Due to Unemployment.

Expenditure Cutbacks	Husbands					Wives				
	None	Occasional	Several	Many	Severe	None	Occasional	Several	Many	Several
Entertainment	9	24	27	18	24	12	21	15	29	24
Recreation	15	18	35	24	9	16	12	29	27	15
Food	27	29	24	18	3	9	41	29	15	6
Clothing	18	27	27	15	15	6	21	29	29	12
Gasoline	41	18	27	9	6	27	35	29	9	--
Home Furnishings	9	21	24	15	32	9	9	12	27	44
Restaurants	12	6	35	18	27	6	18	15	38	24
Vacations	12	12	18	15	44	9	3	6	32	50
Dental Care	27	18	18	18	21	27	21	15	15	24
Medical Care	32	24	18	15	12	38	24	12	15	12
Purchase of Cars	6	6	9	12	67	15	9	6	18	52
Luxuries	3	15	6	18	59	--	15	6	29	50

economic satisfaction scores for husbands after controlling for initial satisfaction.

DISCUSSION

Husbands and wives reported similar changes in consumption management as a result of unemployment. It is evident also that the sample of husbands and wives included in this study reported that their families had responded to the financial concerns of unemployment in a manner similar to their counterparts during the depression and more recent years of inflationary and recessionary economic periods. The findings of this study support those of earlier studies concluding that when struck with financial stress, families react by implementing changes in their consumption management. All consumption changes were implemented by at least some of the families studied. The greatest changes reported were in the area of altering or reducing the allocation of dollar resources to consumption needs. Fewer changes were made in income raising and credit use.

The nonsignificant relationship of economic satisfaction at the onset of unemployment to economic satisfaction one year later suggests that being unemployed may indeed impact the perception that an individual has concerning their economic well-being, especially in the early stages of unemployment. The findings of the multiple regression analysis indicate that the consumption management change, which is the strongest predictor of economic satisfaction one year following the onset of unemployment, is whether or not the family needed to borrow money to pay bills and meet other needs and goals. The more the family borrowed, the more both husbands and wives were likely to express less satisfaction with their economic situation.

It was interesting that increased use of credit was one of the less frequently implemented management strategies, yet it proved to be the strongest predictor of economic satisfaction one year following the layoff. The relationship between credit use and economic satisfaction may be explained as the inability of the family's financial resources to meet the needs and goals of the family, the inability of the family to comfortably change those needs and goals, or the inability of the family to implement those management strategies which had a less negative impact on economic satisfaction. According to Gurin and Gurin (7), families who implemented necessary changes were more likely to accommodate and report greater satisfaction. Families who used credit while unemployed may have felt somewhat out of control and thus felt greater dissatisfaction. Obviously, these family members sense an inability of their present income to meet family needs and are most likely concerned with the ability of their financial resources to also meet long term needs.

Table 3. Stepwise Regression Analysis of Economic Satisfaction onto Consumption Managment Strategies. Betas for Wives (n=34) and Husbands (n=34).

Management Strategy	Economic Satisfaction	
	Wives	Husbands
Time 1	$-.01^{NS}$	$.11^{NS}$
Planning		
Self-Reliance		
Shopping Practices		
Store Choice		
Income Raising		-.36
Credit	-.49	-.66
Cutbacks		
Adjusted R^2	.19	.53
Significance	.018	.001
R^2 due to Behavior Change	.22	.49

The extent to which the family implemented income raising strategies was an additional significant predictor of economic satisfaction one year following the onset of unemployment for the husbands. Again, income raising was a less frequently implemented management strategy. Income raising activities included taking odd jobs and having other family members begin work. The relationship was negative, indicating that an increase in income raising behaviors was related to lower levels of economic satisfaction.

The relationship between an increase in income raising behaviors and economic satisfaction for husbands may be explained by considering the potentially lower income derived currently from odd jobs or having another family member work as compared to the income from the husband's previous job. From a longer term perspective, the husbands may be concerned about the ability of the amount of money already saved and in retirement plans to meet the needs of a more uncertain economic future. As the primary breadwinner of the family, these husbands may be perceiving that these income raising behaviors are not sufficient to fulfill the family's financial needs and goals for either long or short term. Income raising was not a significant predictor of economic satisfaction for wives. Wives may have viewed the income raising behaviors as short term means of paying bills and meeting basic needs for the family during a period of financial stress. Since the wives in this particular sample did not tend to work outside the home, they may not have sensed or felt responsible for the relationship between the job and the amount of income brought into the home. Additionally, if the wife did start to work outside the home due to the unemployment of the husband, she may have developed a greater sense of control over the money coming into the home, thus reducing negative aspects of the behavior.

As conclusions are drawn based on the findings of this study, it is important to note the self report method of data collection. Similarities between the findings of this study and those of others on the extent to which families made changes due to unemployment, however, lessens this concern. Additionally, the small sample size may limit the generability. The sample is approximately 3.4% of the population of the town and a somewhat higher percentage of the population of blue collar workers who were laid off. As a result, the findings are most generalizable to other families in small, rural towns which have one primary employer.

The findings, however, suggest that certain consumption management strategies may be more beneficial than others in helping families cope with unemployment. Similar research on families from rural towns with more than one primary employer, on families living in urban areas, and on larger samples would be beneficial for those individuals responsible for working with unemployed families by providing more knowledge concerning management strategies to recommend.

REFERENCES

1. Buetler, Ivan F. and Alma J. Owen. "A Home Production Activity Model." Home Economics Research Journal, 1980 9:16-26.

2. Caplovitz, David. Making Ends Meet. Beverly Hills, CA: Sage Publications, 1979.

3. Cavan, Ruth Shonle and Katherine Howland Ranck. The Family and the Depression. Chicago: University of Chicago Press, 1983.

4. Curtin, Richard T. and Christopher J. Gordon. "Coping with Economic Adversity," in Richard P. Bagozzi and Alice M. Tybout (eds.), Advances in Consumer Research (Vol. 10). Proceedings of the Association for Consumer Research Thirteenth Annual Conference, 1983, 175-181.

5. Elder, Glen H., Jr. Children of the Great Depression. Chicago, University of Chicago Press, 1974.

6. Guadagno, Mary Ann Nocker. "Economic Stress: amily Financial Management," in H.I. McCubbin and C.R. Figley (eds.) Stress and the Family: Coping with Normative Transitions. New York: Brunner/Mazel, Inc., 1983.

7. Gurin, Gerald and Patricia Gurin. "Personal Efficacy and the Ideology of Individual Responsibility," in Burhard Strumpel (ed.), Economic Means for Human Needs. Ann Arbor, MI: The University of Michigan, 1976, 131-157.

8. Hefferan, Colien. "Economic Changes Faced by Families," in Jean S. Bowers and Loren V. Geistfeld (eds.), Dynamic Planning for Uncertain Times: Living in an Era of Economic Uncertainty. Proceedings of a workshop sponsored by the Family Economic-Management Section of the American Home Economics Association, 1981, 17-28.

9. Hogan, M. Janice. "Household Production in Contemporary Life Styles," in Colien Hefferan (ed.), The Household As Producer: A Look Beyond the Market, Washington, D.C.: American Home Economics Association, 1980, 73-83.

10. Katona, George. The Powerful Consumer. New York: McGraw-Hill, 1960.

11. Leonard-Barton, Dorothy. "Voluntary Simplicity Lifestyles and Energy Conservation," Journal of Consumer Research 1981, 8:243-252.

12. McDaniel, Stephen, W., C.P. Rao, and Ralph W. Jackson. "Inflation-Induced Adaptive Behavior," Psychology and Marketing, 1986, 3:113-122.

13. Moen, Phyllis. "Family Impacts of the 1975 Recession." Journal of Marriage and Family, 1979, 41:561-572.

14. Moen, Phyllis. "Developing Family Indicators." Journal of Family Issues, 1980, 1:5-30.

15. Rettig, Kathryn D. "Coping with Inflation," Illinois Research, Summer, 1982, 7-9.

16. Shama, Abraham. "Coping with Stagflation: Voluntary Simplicity." Journal of Marketing, 1981, 45:120-134.

17. Strumpel, Burkhard. "Economic Life-Styles, Values, and Subjective Welfare," in Burkhard Strumpel (ed.), *Economic Means for Human Needs*. Ann Arbor, MI: The University of Michigan, 1976, 131-157.

18. Thomas, L. Eugene, Esther McCabe, and Jane E. Berry. "Unemployment and Family Stress: A Reassessment." *Family Relations* 1980, 29:517-524.

19. van Raaij, W. Fred and Goos Eilander. "Consuming Economizing Tactics for Ten Product Categories" in Richard P. Bagozzi and Alice M. Tybout (eds.), *Advances in Consumer Research* (Vol. 10). Proceedings of the Association for Consumer Research Thirteenth Annual Conference, 1983, 169-174.

20. van Veldhoven, Gery M. "Unemployment and Economic Psychology: An Introduction." *Journal of Economic Psychology*, 1985, 6:1-8.

21. Voydanoff, Patricia. "Unemployment: Family Strategies for Adaptation," in Charles R. Figley and Hamilton I. McCubbin (eds.), *Stress and the Family: Coping with Catastrophe*. New York: Brunner/Mazel, Inc., 1983, 90-102.

22. Voydanoff, Patricia. "Economic Distress and Families." *Journal of Family Issues*, 1984, 5:273-288.

23. Williams, Flora. Cooperative Regional Project Termination Report: NC-128 Committee. Unpublished manuscript, 1984.

CHANGES IN ASSET RESOURCES DURING RETIREMENT

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ABSTRACT

This research explored changes between levels of financial resources at the onset of retirement and several years into retirement. Nominal value of total assets increased over the eight year period, primarily due to increased market values of owned housing. Holdings in bonds, savings, and life insurance declined over the period. Although no clear patterns of asset decumulation were apparent, retirees seemed to move assets out of low return, fixed income assets and to have a preference for liquid assets. Factors affecting a change in a given asset were changes in other assets, income, area of residence, a change in marital status, education, age, sex, race, and marital status.

Demographic trendlines for the proportion of persons 65 and over, for labor force participation rates of persons 55 and over, and for life expectancies all portend strains on both public and private resources supporting retirees. In 1980, 40 percent of income in households with a member age 65 or over came from Social Security, with 15 percent coming from pensions, 19 percent from earnings, 22 percent from assets, and the remainder from other sources (e.g. public assistance) [Upp, 1983]. The "income portfolio" of married respondents in the 1980-81 Social Security Administration's New Beneficiary Survey was 34 percent Social Security, 19 percent pensions, 20 percent earnings, and 23 percent asset income [Maxfield, 1985]. Clearly, assets, and the income they generate, are essential to the economic security of retirees.

Of these four major sources of retirement income, pension benefits usually are fixed at the time of retirement; the other three sources are relatively flexible and allow the household to adjust to changing price levels. The fixed nature of pension benefits implies that the purchasing power of the benefits can diminish considerably over time. Fox estimated that the real value of private pensions declined by about 20 percent during the first 4 years of retirement for persons retiring between 1968 and 1973 [Fox, 1984].

Social Security retirement benefits are adjusted every January to partially offset the effects of inflation from the previous year. However, problems with this adjustment are that it comes one year after retirees have experienced the rise in prices and it is only a partial adjustment relative to the CPI.

Earnings based on wages and salaries have tended to keep pace with price levels. A retiree working part time could find that wage increases help ameliorate the effects of rising prices. However, only about 23 percent of retirees receive wages [Upp, 1983; Maxfield, 1985]. And it is likely that desire and ability to work decline with age, just when the need to buffer retirement income against the effects of rising prices is becoming greater.

Finally, assets can be managed to provide rates of return which can maintain a constant level of purchasing power for the household. Asset management becomes an especially important issue for household who are asset-rich and cash-poor (i.e. those who hold a large proportion of their wealth in non-financial assets such as real estate). The ability of a retired household to generate income from assets depends on the type of assets held, the household's risk preferences, its knowledge of financial products and markets, and its general skills in financial management.

Educators, personnel departments, and financial planners are often called upon to help with retirement planning, both planning for retirement and asset management in retirement. While a good deal of popular literature is available, there is a relatively small research base on which to build educational and advising programs. It would be particularly helpful to know what financial resources people have available to them during retirement and how these resources are used throughout retirement, through portfolio rearrangement as well as dissaving and liquidation. In addition, in order to determine appropriate and feasible policies with respect to retirement income programs, policy makers need to be supplied with current information on retirement dissaving practices.

The purpose of this research was to determine any changes between the level of financial resources at the onset of retirement and a number of years into retirement, to explore patterns of asset decumulation, and to determine factors affecting changes in asset resources during retirement.

PREVIOUS WORK

Research on assets in retirement falls into two basic categories: descriptions of income and asset levels at retirement and/or at some point into retirement and life cycle analysis of savings.

Descriptive studies by Social Security Administration researchers have provided a picture of assets prior to and during retirement. Epstein and Murray's 1963 study of postretirement assets revealed that the average asset portfolio consisted of liquid financial assets (20%), other financial assets (20%), equity value of house (33%), and other equity (27%). Retirement income came primarily from Social Security and earnings with some interest income. Seventeen percent reported a decrease in assets over a given year, with illness being the major reason for a decline in assets [Epstein and Murray, 1967].

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Other retirement income studies conducted by Wentworth and Motley [1970], Sherman [1973], and Upp [1983] have included measures of asset income as part of the retirement income portfolio. However, no special analysis of asset management was included. Similarly, the most recent Survey of Consumer Finances [Avery, Elliehausen, and Canner, 1984] provides information on assets at and in retirement, but only in a cross section perspective.

The life cycle hypothesis of savings specifies a "hump" profile with persons saving in middle stages of their lives and dissaving in early and later stages, such as retirement [Ando and Modigliani, 1963; Lydall, 1955; Sharrocks, 1975]. Numerous studies have been conducted on the asset accumulation of persons prior to retirement. Research by Hemming [1977], Munnell [1976], and Sobol [1979] are representative works in this area. However the asset "decumulation" literature is somewhat more sparse. Empirical evidence using "macro" data (i.e. data aggregated at the national level) does not show consistent support for this dissaving-at-retirement hypothesis [Davies, 1981; Mirer, 1980].

Using net worth as a dependent variable, Davies found persons aged 65 to 85 dissaved at a rate of 2.9 to 3.7 percent per year, a rate significantly lower than the rate of 7 to 9 percent predicted by the life cycle hypothesis [Davies, 1981]. He indicated that uncertainty about life expectancy was a major factor in the difference between the expected and actual dissaving rates. However, his findings were based on cross-sectional data and it may not be appropriate to infer the behavior of one cohort from the behavior of another.

Similarly, Mirer [1980] found a median dissavings rate of 1.2 percent, using the saving/wealth ratio as the dependent variable and cross sectional data. He also found that households with lower levels of wealth and income had greater dissavings than those with higher wealth and income. Mirer did not include present values of Social Security and pension benefits in his wealth measure, thus his estimates may have an upward bias.

Kotlikoff, Spivak and Summers [1982] studied the ratio of consumption during old age to lifetime consumption as a measure of the adequacy of lifetime savings using Retirement History Study data. Their results indicate that over 90 percent of married couples can afford old age consumption levels of at least 80 percent of their lifetime consumption level, 85 percent of couples could afford to purchase a larger annuity in their old age than they could at age 30, and that 73 percent of couples could afford to consume at a higher level than their lifetime consumption level, but only until age 88. Further, they found the determinants of the ratio between the two consumption streams to be a function of age, education, race, home ownership, Social Security (the ratio of Social Security to the present value of lifetime income resources), pensions (a similar present value ratio), future value of earnings, and lifetime income resources interacted with Social Security. They conclude that there is no evidence of under-saving among the elderly. However, they include the present value of Social Security benefits as part of the savings portfolio of the elderly. And while this may be an appropriate measure for this particular cohort, it may not be an appropriate measure to use with future cohorts.

Hammermesh [1982] examined the effects of life expectancy on the timing of retirement and consumption during retirement. Life cycle theory posits that persons will consume less and work more if they expect to life longer. However, he found that increased longevity had not been met by spending cuts which would enable people to maintain their real consumption over longer lifetimes. If such is the case, then asset decumulation should take place at a more rapid rate as a person ages.

Finally, since the focus of this study is changes between and among assets, it is important to couch the study in a portfolio context. While there is a body of literature on asset and debt portfolios (see, for example, Bryant, 1986), little work has been done which focuses on asset portfolios and portfolio adjustment in retirement.

In summary, empirical results are mixed with regard to life cycle effects and existing models give no indication of patterns of asset decumulation. While the life cycle hypothesis indicates that dissaving should occur during retirement, rather low levels of dissaving have been found in empirical studies. Nor do other descriptive studies of asset and income portfolios at or near retirement provide any evidence of what pattern, if any retirees follow in their dissavings nor the factors affecting portfolio adjustments. The use of a longitudinal data set may be helpful in clarifying some of these patterns and relationships.

MODEL

The portfolio model posited for this study is that the change in a given asset is a function of changes in other assets in the portfolio and of a set of socio-economic variables which are likely to affect asset use:

$$\Delta Asset = f(\Delta OA, Z)$$

where

OA = other assets in the portfolio

Z = a vector of socio-economic variables

The specific OLS regression model to be tested empirically is:

$$\Delta Asset = (\ \Delta OA,\ Ed,\ Age,\ MS,\ CMS,\ Sex,\ Race,\ Urban,\ Health,\ Income)$$

where:

Assets = Savings bonds; stocks and other bonds; balances in checking accounts; balances in savings accounts; cash value in life insurance policies; market value of house; sum of financial assets; sum of total assets
Ed = number of years of schooling completed
Age = age in 1979
MS = marital status (1=married)
CMS = change in marital status from married to widowed (1=widowed)
Health = perception of health compared to others of same age (1 = health is better or the same as others)
Income = income in 1979 from earnings; railroad retirement; military, government, and employer pensions; SSI; public assistance; Social Security; disability benefits from Social Security and others; survivors' benefits; black lung; interest
Sex 1 = male
Race 1 = white
Urban 1 = lives in urban area

This portfolio approach results in a simultaneous equations system model. Consequently, the parameter estimates may not be consistent. Thus, the results reported here should be considered preliminary, subject to further validation.

DATA AND VARIABLES

The sample for this study was drawn from the Social Security Administration's Longitudinal Retirement History Surveys (LHRS) from 1969 to 1979. The LHRS included men and single, widowed, divorced or separated women who were ages 58 to 63 in 1969. The LHRS did not include women who were living with their husbands, although the widow of an LHRS respondent continued to be interviewed after her respondent-husband died. The final sample included 11,153 respondents in 1969.

Respondents who were working in 1969 but who reported themselves retired in 1971 were included in this study. This controlled the length of retirement and permitted some evaluation of preretirement data. The potential age range in 1971 was 60 to 65. Data from 1979 were used to determine changes during the retirement period; respondents ages in 1979 ranged from 68 to 73. Because data from both time periods were needed, only respondents with "complete" data from 1969 through 1979 were included; the final sample contained 701 respondents.

Of necessity, this is a study of survivors. Since the LHRS contains information from widows of respondent males, there is some control for married couples. No such control exists for single persons, however. This study will focus on these survivors, recognizing the sample selection bias inherent in this approach.

Financial and real estate asset variables studied were the values of: U.S. savings bonds, stocks and other securities, cash in savings accounts, cash in checking accounts, cash value of life insurance, and the market value of the respondent's house if a homeowner. Values of these variables were measured in 1971 and again in 1979. Summary variables were created to study financial assets (bonds, stocks, checking and savings accounts and life insurance) and total assets (financial assets plus the value of owned housing). For a discussion of net asset variables, please see Appendix Note 1.

ANALYTIC DESIGN

The set of dependent variables of interest is the change in the value of assets from 1971 to 1979. There are several possible schema which could be used to determine the change in value. The one which is explored in this study is a straightforward nominal dollar change between 1971 and 1979. This scenario could be best described as the "spend all interest, leave the principal intact" scheme.

To analyze the data, a set of difference variables was created. These variables represent the difference between the actual values in 1979 and a set of expected values in 1979, which in this case are the values in 1971. Thus if a household held a $10,000 savings account in 1971, it was expected that they would withdraw the interest and the $10,000 principle would remain intact in 1979. The expected value ($10,000) was subtracted from the actual value reported in 1979. A positive difference variable would indicate that the household was holding more of this asset than expected; a negative value indicates that the household is holding less than the expected value.

DESCRIPTIVE RESULTS

The mean and median values for the financial and other assets held in 1971 and 1979 as well as for the socio-economic independent variables are reported in Table 1. Information on the percentage of households not holding certain assets is included as well as information on constant dollar values of assets in 1979. Most households held checking and saving accounts, life insurance and owned a home. The aggregate data in Table 1 suggest that, on average, the constant dollar value of assets held in bonds and cash value of life insurance declined, while the value of assets in stocks, checking and savings accounts and value of owned housing rose. In the aggregate, the values of total financial assets and total assets rose.

Table 1

MEANS AND MEDIANS OF FINANCIAL AND OTHER ASSETS, 1971 AND 1979
MEANS, MEDIANS, AND PROPORTIONS OF INDEPENDENT VARIABLES
CURRENT DOLLAR FIGURES

	Mean	Median	S.D.	% Reporting 0	Mean (Constant $)
1971					
Bonds	$1,252.27	$ 0	4,428	70	
Stocks	6,253.86	0	34,073	75	
Checking	838.10	288	2,010	26	
Savings	6,948.65	1,800	14,208	32	
Life Insurance	7,338.35	3,000	13,647	19	
House	15,336.44	12,000	17,757	19	
Mortgage	1,285.72	0	3,794	81	
Sum Financial Assets	23,003.60	11,767	43443		
Sum Total Assets	39,078.40	28,804	51,21		
1979					
Bonds	835.68	0	4,247	82	730.19
Stocks	7,528.37	0	39,253	78	5,948.20
Checking	1,005.06	350	2,411	21	793.59
Saving	13,248.00	4,000	23,418	25	10,465.92
Life Insurance	5,808.26	1,825	16,356	23	4,580.31
House	28,415.10	24,000	36,518	26	23,237.83
Mortgage	1,065.04	0	4,453	89	
Sum Financial Assets	25,862.40	14,946	57,113		20,431.28
Sum Total Assets	55,086.63	37,178	77,558		43,518.44
Independent Variables					
Education	10.02	10	3.55		
Age	71.34	71	1.50		
MS	.77				
CMS	.25				
Sex	.86				
Race	.94				
Urban	.57				
Health	.69				
Income	8,311.68	6855	6308		

Information on the means of the difference between the actual value of assets in 1979 and the expected value (i.e., the value in 1971) is presented in Table 2. Over the eight years being studied, on average, balances in checking accounts rose, as did the value of owned housing and stock held and the value of total assets. Assets held in bonds, savings accounts, and life insurance declined on average, as did the value of total financial assets.

The decline in the value of bonds held may be a reflection of the difference between the rate of return on savings bonds and the rate of inflation. As inflation eroded the value of the accruing interest, retirees may have decided to cash these in and use or re-invest the proceeds. The decline in the value of life insurance might be expected since the elderly may feel less of a need for life insurance to support dependents and since life insurance paid very low rates of return relative to inflation in the mid-1970s.

Table 2

MEAN DIFFERENCES BETWEEN OBSERVED (1979) AND EXPECTED (1971) VALUES

Variable	Mean	Median	S.D.
Bonds	-$ 305.23	$ 0	3,290
Stocks	1,269.65	0	26,135
Checking	267.15	233	1,888
Saving	-83.19	4,511	20,624
Life Insurance	-1,490.70	0	14,668
House	14,219.36	9,300	27,596
Sum Financial Assets	-529.66	1,800	40,928
Sum Total Assets	13,636.89	8,923	52,417

Savings balances were lower than expected, on average, but only by $83. As indicated by the median value of the savings difference variable ($4,511), the distribution of this variable was somewhat skewed. Approximately 28 percent of households reported a lower savings balance in 1979 than in 1971. In some cases, the difference was quite large; in 10.5 percent of the cases, the savings balances dropped over $30,000 during the 8 year period.

Total financial assets dropped about $530 over the 8 year period. This dissavings is consistent with the life cycle theory but the magnitude is quite small to represent any significant dissaving. The increase in the average value of total assets ($13,640) most probably reflects the rise in housing values over the 8 years.

The higher than expected balances held in checking accounts can be interpreted as an indication of the high liquidity preferences of retirees. It is important to note that during the period under study (1971-1979), checking accounts were interest free. It was not until the Monetary Control Act of 1980 that NOW and "interest checking" accounts came on the scene. Thus, these retirees were choosing to forego interest in order to remain more liquid.

With regard to the higher than expected holdings of stocks, this result is as might be expected if the retirees chose not to realize their capital gains and/or participated in a dividend re-investment program. Ordinarily one might expect retirees to end such re-investment programs and take the dividends as cash income. However, in the early years of retirement, retirees may rationally decide to have an investment goal of continued growth in order to buffer their future income (in 15 or 20 years) against the effects of inflation. The shift out of re-investment programs and/or out of growth oriented stocks and into income producing stocks may occur later on in retirement.

The difference variable for the value of the house is of interest more from an academic perspective than from a practical one. Since these households could not, or did not, tap the equity in their homes, the higher than expected value is expected. It is also interesting to note that the value of housing for persons in this sample increased by a factor of 1.9 from 1971 to 1979; over the same time period, the CPI for housing rose by a factor of 1.84.

REGRESSION RESULTS

Results of the regression analyses of the effect of the independent variables and other assets in the portfolio are presented in Table 3. Adjusted R^2s range from .01 (stocks) to .15 (balance in checking account). The equation for stocks was not significantly different from zero; this may be due to the large proportion of households who did not hold this asset (75 percent). The remainder of the discussion will focus on the other 7 equations which are significant at the .04 level or better.

It is clear that changes in other assets as well as certain socio-economic factors affect the difference between expected (1971) and actual (1979) values of a given asset. Turning first to the relationships among assets, it is apparent that a change in a given asset is affected by changes in other assets. For example, a dollar increase from 1971 to 1979 in the value of bonds (i.e. the difference between the actual value in 1979 and the expected value based on 1971) is associated with a $.48 increase in the value of savings.

For the most part, these intra-asset relationships are positive, with a positive difference in one asset associated with a positive difference in another asset. However, the relationship between checking and savings is negative, as is the relationship between value of stocks and housing. A dollar increase in savings is associated with a slight decrease in checking, while a dollar increase in checking is associated with a $1.33 decrease in savings. This implies that households shifted money between checking and savings accounts.

An increase in the value of stocks is associated with a slight decrease in the value of housing. This might be expected if households liquidated their housing assets and invested the proceeds in other equities.

Among the socio-economic variables, total income was a significant factor in all 7 equations. It was positively associated with changes in the value of savings, checking, housing, total financial assets, and total assets. It would be logical to assume that, other things being equal, the more income one had, the less one would need to draw down assets. In fact, the more income one has, the more one might be able to continue to build up assets. The negative relationship between total income and bonds and between total income and life insurance may be reflecting the fixed income nature of these investments as well as low rates of return relative to the inflation levels of the 1970s.

Living in an urban area was negatively associated with changes in bonds, savings, checking, total financial assets and total assets. It may be that urban households face higher costs of living which require them to dissave in order to maintain their level of living.

A change in marital status from married to widowed was negatively associated with bonds, life insurance, and total financial assets. With regard to the cash value of life insurance, this result is as expected. Also, to the extent that widowed persons needed to dissave to pay for funeral and estate settlement expenses, the negative relationship with total financial assets is logical.

Education was positively associated with changes in savings, checking, total financial assets and total assets. *Ceteris paribus*, people with more education may be more knowledgeable and/or skillful in asset management and thus able to increase the value of their assets through sound investment practices.

Other variables that achieved significance in one or more of the seven equations were age (positively associated with checking), sex (positively associated with savings), race (positively

TABLE 3

REGRESSION COEFFICIENTS (t values in Parens)

Dependent Variables

INDEPENDENT VARIABLES	BOND	STOCK	SAVE	CHECK	LIFE	HOUSE	FINANCIAL ASSETS	TOTAL ASSETS
Bond	--	.4231	.4848	.0303	.1213	2.8302	--	--
--	(.87)	(1.41)	(.91)	(.54)	(5.01)	--	--	
Stock	.0054 (.87)	-- --	.0432 (1.10)	.0021 (.57)	.0522 (2.07)	-.1079 (1.62)	-- --	-- --
Save	.0124 (1.41)	.0853 (1.10)	-- --	-.0123 (2.34)	.1341 (3.840)	.1909 (2.05)	-- --	-- --
Check	.0836 (.91)	.4612 (.57)	-1.3291 (2.34)	-- --	1.2540 (3.44)	.9015 (.92)	-- --	-- --
Life	.0074 (.54)	.2467 (2.07)	.3207 (3.84)	.0278 (3.44)	-- --	-.0847 (.58)	-- --	-- --
House	.0251 (5.01)	-.0739 (1.62)	.0662 (2.05)	.0029 (.92)	-.0122 (.58)	-- --	.0479 (.73)	-- --
Education	36.5484 (.80)	233.443 (.58)	630.421 (2.22)	43.5728 (1.58)	-205.412 (1.11)	58.5691 (.12)	936.088 (1.57)	1300.727 (1.64)
Age	43.3128 (.47)	-92.1560 (.11)	336.111 (.59)	137.165 (2.54)	-36.1156 (.09)	377.286 (.39)	687.919 (.58)	1495.907 (.95)
CMS	-483.172 (1.43)	61.5375 (.02)	1605.83 (.75)	212.885 (1.04)	-4832.397 (3.59)	3632.470 (1.01)	-7170.859 (1.64)	-4050.601 (.69)
MS	-63.1915 (.11)	3409.919 (.73)	1460.237 (.44)	-328.816 (1.03)	1370.269 (.64)	4073.096 (.72)	7537.789 (1.08)	11776.914 (1.27)
Sex	-514.088 (.68)	-8658.42 (1.32)	6568.312 (1.40)	51.8928 (.11)	-1841.300 (.60)	-7686.366 (.96)	-5754.509 (.58)	-13957.617 (1.06)
Race	-158.675 (.24)	1766.608 (.31)	-3486.87 (.86)	-306.381 (.78)	1595.795 (.61)	11627.909 (1.70)	-811.226 (.09)	10827.254 (.96)
Urban	-595.918 (2.04)	258.414 (.10)	-4742.82 (2.81)	-857.639 (3.99)	-503.682 (.42)	850.544 (.30)	-9884.131 (2.67)	-12631.652 (2.56)
Health	125.134 (.42)	1816.484 (.70)	326.730 (.17)	-34.2648 (.19)	324.808 (.27)	-2896.286 (.93)	3378.101 (.87)	325.5713 (.06)
Total Income	-.0784 (3.08)	.3745 (1.66)	.4900 (3.14)	.0802 (5.38)	-.3713 (3.63	.8765 (3.25)	.4276 (1.36)	1.3391 (3.25)
Intercept	-2535.835	6510.905	-32744.769	-9813.215	5618.883	-22086.196	-54171.365	-106475.
N	342	342	342	342	342	342	342	342
R^2 (adj.)	.09	.01	.11	.15	.11	.12	.03	.06
F	3.62	1.33	4.13	5.19	4.15	4.21	1.92	3.37
Prob(F)	.0001	.1884	.0001	.0001	.0001	.0001	.04	.0006

associated with housing), and marital status (positively associated with total assets).

DISCUSSION

The purpose of this research was to explore changes in levels of financial resources during retirement, to explore patterns of asset use, and to determine factors affecting changes in assets during retirement. It appears that holdings in bonds, savings accounts and life insurance decreased, while holdings in stocks and checking accounts increased. Overall, there was a slight decline ($530) in the average value of financial assets over the 8 years, although when the housing component was added in, the average value of total assets rose over the 8 year period. It is noteworthy that although in the aggregate values of financial assets and total assets rose (Table 1), at the micro level differences emerged (Table 2).

It is quite probable that this 8 year time span is not "long enough" to capture real changes in assets which occur during retirement. Since life expectancies at retirement are in the 17 to 26 year range, and since people are uncertain about lifetimes and future health care needs, the first 8 years of retirement may not provide evidence of dissaving. Since 5 percent of persons 65 and over are in nursing care facilities, compared to 22 percent of persons age 85 and over [Pollak, 1983], dissaving may be better studied at later ages in retirement.

The large proportion of assets held in owner occupied housing (53 percent of total assets in 1979) may become problematic during the later years of retirement when more liquid assets have been spent down. It is likely that consideration of owner occupied housing as an asset to be managed will become more important, especially in these later years of retirement. The appreciation rates for well-maintained houses have tended to keep pace with inflation, making owned housing a "growth investment." However, tapping home equity through reverse annuity mortgages or sale and lease back arrangements was impossible (if not unthinkable) in the 1970s. The choice set for making houseing a more "manageable" asset has expanded in the 1980s. Although equity conversion is one way to manage this asset, there are other options for older homeowners which may provide alternative streams of income, services or a shifting of resources and/or expenditures (e.g. accessory apartments, home sharing). The feasibility of these options is in part dependent upon the attitudes of the retirees and in part on federal, state, and local policies and regulations with regard to shared appreciation, zoning and other issues.

The focus of this study was nominal change in asset values during retirement, consistent with "live off the interest" asset management. This management practice may be appropriate if retirees are able to receive a portfolio rate of return which equals or exceeds current inflation rates. Mean interest income for the sample in 1979 was $1569; comparing this to the mean value of total financial assets, the implied rate of return is 6.06 percent; during 1979, the CPI rose 11.5 percent. Thus retirees were losing ground both in the real values of their assets and in the income these assets generated.

Given the limitations of the data, it is not possible to determine exact patterns of asset decumulation during retirement. However, the data do give some clues as to how retirees use their assets. First, they seem to have shifted money out of low return, fixed income assets, such as bonds and life insurance. This finding with regard to life insurance may be a reflection of collecting beneficiary payments. Second, retirees have a strong liquidity preference as evidenced by their holdings in checking and savings accounts. However, there is no way to spot movement within categories. For example, retirees could have moved money out of passbook savings accounts and into certificates of deposit, which paid better-than-inflation interest rates in the late 1970s. There is no way to know if the proceeds from life insurance were re-invested or used for consumption. Similarly, there is no way to know to what degree retirees adjusted their stock portfolio to provide for desired levels of risk, income, and growth.

With regard to factors that affect changes in assets during retirement, it is clear that changes in other assets held in the portfolio affect changes in a given asset. Total income available to the retired household also affects asset use, as do some demographic and locational variables. It is of interest that the health variable was not a significant determinant of asset change. Given the age of the sample (68 to 73 in 1979), this is not surprising. Again, a study done over a longer period of time may reveal the importance of health related variables in asset decumulation.

It is likely that there are cohort effects with this sample. Persons in this sample were in their 20's during the 1930's Depression. They may hold some financial management values and attitudes with regard to safety (and/or risk) and liquidity which may be quite different than those of younger cohorts. Also, their employment patterns and participation in pension programs may not be typical of younger cohorts. Thus, results of this study are not necessarily generalizable to future cohorts of retirees.

Finally, it is important to re-iterate three major technical problems with this preliminary look at asset use in retirement. First, the sample is biased due to the fact that only survivors were studied. Use of a Heckman procedure to identify probability of survivorship and estimated future asset levels is possible to correct this problem. Second, the large proportion of persons with no holdings of stocks and/or bonds (i.e., reporting zero) is problematic when using OLS regression. Use of ordered probit may be a more appropriate approach, categorizing cases as negative changes in a given asset, zero change, and positive changes. Third, there is a problem with simultaneous equation bias. Two stage least squares is the appropriate model estimation tool. Future research on this subject will need to take these factors into consideration.

CONCLUSIONS

This study has shed some light on the changes in levels of assets during retirement and on some of the factors affecting those changes. The interrelationships among the various assets indicate that households consider the entire portfolio as they liquidate, dissave and re-arrange assets.

The decline in the real value of the portfolio and the lower-than-inflation rate of return indicate a need for better asset management on the part of retired households. While a retirement nest egg should not be considered venture capital, it may be that with increased knowledge of financial institutions and financial markets, and improved financial management skills, retirees can improve their portfolio value and rate of return. Consumer educators and financial planners may be able to work through and with senior citizen groups to provide such educational opportunities.

REFERENCES

Ando, Albert and Franco Modigliani. The "Life Cycle" Hypothesis of Saving: Aggregate Implications and Tests. American Economic Review, 53(1), 1963, 55-84.

Avery, Robert B.; Elliehausen, Gregory E.; Canner, Glenn B. Survey of Consumer Finances, Federal Reserve Bulletin, 70, 1984, pp. 679-92.

Bryant, W. K. Assets and Debts in a Consumer Portfolio, Journal of Consumer Affairs, 20(1), 1986, pp. 19-35.

Davies, James B. Uncertain Lifetime, Consumption, and Dissaving in Retirement. Journal of Political Economy, 89(3), 1981, 561-577.

Epstein, Lenore and Janet Murray, eds. The Aged Population of the U.S.: The 1963 Social Security Survey of the Aged. U.S. Social Security Administration Office of Research and Statistics Report 19, Washington, DC: U.S. Government Printing Office 1967.

Fox, Alan. Income Changes At and After Social Security Benefit Receipt: Evidence from the Retirement History Study, Social Security Bulletin, 47(9), 1984, pp. 3-23.

Hamermesh, Daniel S. Life Cycle Effects on Consumption and Retirement. National Bureau of Economic Research Working Paper Series, No. 976; Cambridge, Mass., 1982.

Hemming, R.C.L. The Effect of State and Private Pensions on Retirement Behavior and Personal Capital Accumulation. Review of Economic Studies, 44(1), 1977, 169-172.

Kotlikoff, Laurence; Spivak, Avia; and Summers, Lawrence. The Adequacy of Savings American Economic Review (72(5) 1056-1069. (Dec. 1982).

Lydall, Harold F. The Life Cycle in Income, Saving and Asset Ownership. Econometrica 23(2), 1955, 131-150.

Maxfield, Linda D. Income of New Retired Workers by Age at First Benefit Receipt: Findings from the New Veneficiary Survey, Social Security Bulletin, 48(7), 1985, pp. 7-26.

Mirer, Thad. the Dissaving Behavior of the Retired Aged. Southern Economic Journal, 46(4), 1980, 1197-1205.

Munnell, Alicia H. Private Pensions and Savings: New Evidence. Journal of Political Economy, 84(5), 1976, 1013-1032.

Pollak, Patricia B. Housing Options for Older New Yorkers: A Sourcebook. Ithaca, New York: Cornell Cooperative Extension, 1983.

Sherman, Sally R. Assets on the Threshold of Retirement. Social Security Bulletin, 36(8), 1973, 3-17.

Shorrocks, A.F. The Age-Wealth Relationship: A Cross Section and Cohort Analysis. Review of Economics and Statistics, 57(2), 1975, 155-163.

Sobol, Marion Gross. Factors Influencing Private Capital Accumulation on the "Eve of Retirement." Review of Economics and Statistics, 61(8), 1979, 585-593.

Upp, Melinda. Relative Importance of Various Income Sources of the Aged, 1980. Social Security Bulletin, 46(1), 1983, 3-10.

Wentworth, Edna C. and Dena Motley. Resources After Retirement. U.S. Social Security Administration Office of Research and Statistics Report 34, Washington, DC: U.S. Government Printing Office, 1970.

APPENDIX NOTE

1. Mortgage debt was subtracted from each summary variable for net financial asset and net total asset variables. However, because of the distribution of the mortgage debt variable, the mean net asset variables were not significantly different from the gross asset variables. Other debt (auto, consumer, medical) was also considered, but the coding on these variables proved problematic. Only about 10 percent of the cases had figures (including 0 values) for these debt variables, with the remainder coded as missing. Thus it was decided to eliminate debt variables in this study.

DISCUSSION

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ABSTRACT

These three papers investigate longitudinal changes in family financial decision-making, unemployment adjustment, and retirement assets. The Fitzsimmons article is one of many investigating task assignment in families. The Wilhelm, Iams, and Ridley article identifies consumption change behavior resulting from unemployment. Hogarth provides valuable information about asset changes after retirement.

INTRODUCTION

These three papers focused on longitudinal changes experienced by families in their financial decision-making and task assignment, adjustment to unemployment, and retirement portfolios. The contribution to knowledge about family financial behavior is varied, but all three papers elicit discussion that can redirect or improve future research or the analysis of the data presented here. All of these researchers should be commended for their use of longitudinal rather than cross-sectional data to test their hypotheses.

Fitzsimmons

The words "money management" imply decision-making power. Record-keeping and transaction task assignment is an inappropriate measure of the exercise of financial decision-making power by husband, wife, or jointly. The major question raised by this research paper is whether task delegation between husband and wife is an important issue. As long as the task gets done, does it really matter who does it as far as the impact on family financial well-being is concerned? It is even possible that children could be assigned some of the tasks studied. The important issue is who makes the decision about task assignment. Where is the power over money-related task assignment in the family?

A second concern with this research is the confusion that exists between the concepts of role specialization and task assignment. That issue is further confused by uncertainty as to which role is being studied--the marital roles of husband and wife or the family money manager role. Once those questions are resolved, research on the outcome of money management in terms of family financial well-being relative to whether the husband, wife, or the two jointly manage the family's finances may be a more profitable line of inquiry. Task assignment associated with husband and wife roles has been studied extensively, and this research does not add any significant information to the already existing pool.

A methodological issue is the definition of full-nest families as including couples without children. This seems a contradiction in terms. Couples who have children and couples who do not have children live very different kinds of lives and are faced with a different set of decisions, or at the very least, a different hierarchy of criteria for making decisions. Analysis of the longer-married couples without children compared to newly-wed families and to full-nest families with children would seem to be at least a minimum requirement before they are lumped in with families whose nests are "truly" full.

The author of this paper makes a rather strong statement that women have traditionally been "perceived as having little input into family money management". There is research that indicates this is an inaccurate generalization, at least in lower class and blue-collar families. Some additional search of the literature and expanded discussion of this issue would strengthen the paper.

Wilhelm, Iams, and Ridley

Since no tables were included in the copy of the paper submitted to the discussant for review, the comments on this paper are limited to two aspects of the text that caused some concern. Overall, the research appeared to be well conceived and carried out to achieve the authors' intent.

Their discussion of the negative relationship between the husband's level of economic satisfaction after one year and the consumption management changes of income raising and credit use engaged in by the family ignores the research data on the psycho-emotional impact of unemployment on the male self-image. Having to rely on the earning power of other family members and the inability to get a full-time job would appear to be critical determinants of self-esteem and may better explain the husband's dissatisfaction than his perceptions about their insufficiency to meet short- and long-term family needs.

There is a tone of disapproval in the text of this paper about one of the consumption change behaviors--credit use. It is questionable whether any of the coping strategies for handling unemployment included in this research are undesirable. Credit use is a legitimate method for dealing with a financial emergency. Perhaps expectations about the credit repayment experience (requires an extended period of time, difficult negotiation with creditors, for example) or a perceived lack of ability to ever repay might better explain the finding of a decrease in economic satisfaction associated with credit use. Credit use *per se* does not appear to be a cause of diminished satisfaction in our economy and might even be argued by some to increase satisfaction under certain circumstances.

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The consumption change behaviors for coping with unemployment developed for this research can profitably be studied in family response to other kinds of financial stress, such as meeting college education expenses or retirement, or unexpected financial emergencies, such as severe illness or disability. Comparisons of how family coping strategies vary among financial situations requiring an alteration in behavior patterns would be a useful contribution to our understanding about longitudinal family financial behavior.

Hogarth

This paper provided a valuable look at what happens to retirement resources through time as individuals participate in the retirement experience for which they have planned and prepared (or not planned and not prepared) during their working years.

The major concern with the paper lies in the model proposed by the author and the statistical procedures utilized. The model states that: Δ Asset = f (ΔOther Assets, z) Z is defined as a *vector* of eight socio-economic variables. This suggests that z is an independent variable composed of some intersection of the socio-economic variables. That suggested to me that some appropriate statistical technique would be used on the eight socio-economic variables to determine a range of values for the independent combination variable z. Instead, Hogarth ran a regression analysis using the eight socio-economic variables as individual independent variables. The analysis needs to be reconsidered. If retained as is, the model should be described more accurately or more clearly so that this confusion does not arise. If the analysis is inappropriate for the model as it presently stands and the model is unchanged, a thorough revision of this section of the paper is in order.

The "safety of principal invested" as an explanatory factor in retirement asset management relative to accepting returns below the rate of inflation should be further developed in this paper. This factor is of greatest importance in financial portfolio management during the retirement stage of the family life cycle.

CONSUMER REPORTS' SURVEYS OF PROBLEMS EXPERIENCED BY OWNERS OF USED CARS: AN EMPIRICAL ANALYSIS OF THEIR USEFULNESS TO CONSUMERS

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ABSTRACT

This study assesses the predictive validity of aggregate frequency data yielded by *Consumer Reports*' annual surveys of problems experienced by owners of used cars. For cars representing each of five model years (1975-79), bivariate and multivariate correlational techniques were used to analyze the data of six annual surveys. The study findings indicate that each year's reported frequencies of problems are highly predictive of next year's, both for overall and individual categories. Predictability was found to differ significantly by individual problem category and by the recency of the survey data.

Most car buyers choose used models and they often do so with little reliable information upon which to base this important purchase decision (Anonymous 1986). The one source of information which is often cited as an exception to this generalization is the assortment of monthly magazines published by consumer associations in many nations of the world, such as *Consumer Reports*, the American publication of the non-profit, consumer testing organization, Consumers Union. Each year this magazine presents detailed summary information relating to serious problems (i.e., problems requiring major repairs) which owners of major makes and models of automobiles report they have experienced in the previous year.

The purpose of this research study is to provide an empirical assessment of the usefulness of this information to consumers interested in the purchase of used automobiles. The study addresses a problem with significant implications for many consumers.

METHOD

Bivariate and multivariate correlational techniques were used to determine the predictive validity of *Consumer Reports* automobile problem data for the various makes and models of cars manufactured in 1975 through 1979 for which complete survey data were available in *Consumer Reports* for six years of consumer use. For each year of manufacture, bivariate correlations were computed for all pairs of successive years over the six-year period (e.g., for 1979 cars, this means 1979 with 1980, 1980 with 1981, etc.).

When, for a given year of manufacture, more than one predictor year was available (e.g., for 1979 cars, 1979 and 1980 as predictors of 1981), multiple correlations were also computed. Separate correlations were computed for each of 15 potential problem categories for which *Consumer Reports* had gathered survey information since 1975, as well as a composite category which includes all 15. For cars manufactured in 1978 and 1979, two more potential problem areas were added by *Consumer Reports* (body exterior-rust and body exterior-paint) and separate correlations were computed on these areas as well as the composite category. With the two body exterior additions, the composite category for the 1978 and 1979 model years is based on 17 individual problem areas.

The results of the statistical analyses should shed light on the following questions:

1. Are aggregated problem experiences for one year a good predictor of aggregated problem experiences in the following year?
2. Does predictability vary by problem category in that, for example, brake problems are more predictable than problems with exhaust systems?
3. Does predictability vary by years of consumer use in that, for example, survey data for automobiles in their first year of use are more predictive of next year's data than are survey data for automobiles in their fifth year of use?

RESULTS

The results presented in this section are in two parts. The first part examines the findings of the bivariate correlational analyses which relate to the three questions posed earlier. The second part reports the results of multivariate correlational analyses which examine possible extensions of the findings of the bivariate analyses.

The Bivariate Correlational Analyses

Let us look at the findings for the three earlier-posed questions.

1. Are aggregated problem experiences for one year a good predictor of aggregated problem experiences in the following year?

On the average, for all individual problem areas examined, one year's relative frequencies of problems experienced by the owners of various makes and models of automobiles were found to be highly predictive of the relative frequencies of problems likely to be experienced in the following year by the owners of the same makes and models of automobiles.

2. Does predictability vary by problem category?

The 1979 model year data suggest that it varies considerably, and this suggestion is confirmed by statistical analysis. Statistically

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[1] Professor of Psychology. The author would like to thank Leslie Braden, Kathleen Kunk, Alice Mack and Tammala Woodrum for their help with the data analysis phases of the study. He would also like to thank The Graduate School of Eastern Michigan University for funding the study.

significant findings were also yielded for the data of each of the remaining four model years in the study, indicating substantial agreement across model years.

3. Does predictability vary by years of consumer ownership and use?

The question here is whether the year-to-year correlations of owner-reported problem data change as the cars of a given model year age. Once again, the study findings suggest considerable variation and, as was the case before, the suggestion is supported by statistical analysis. The statistical analyses reveal that as cars of a given model year age, their record of serious problems experienced in the recent past (i.e., the just-completed year) becomes more useful as a predictor of serious problems to be experienced in the year ahead.

The Multivariate Correlational Analyses

As indicated earlier, each year Consumer Reports presents to its reader tabular summaries of the major automobile problems experienced by its survey respondents in the just-completed year. No attempt is made to include in these tabular summaries a more comprehensive rendering of these repair experiences, such as a longer history treated in a manner which would assign more weight to the more predictive (presumably, the most recent) years of data collection. To correct for this deficiency a multivariate technique was applied to the six years of survey data for each model year in an effort to determine if predictability of automobile problems in a selected criterion year (say, 1984) could be improved by going beyond the most recent year's survey results (1983) to include survey results for the following: the two most recent years (1982 and 1983), the three most recent years (1981, 1982 and 1983), the four most recent years (1980, 1981, 1982 and 1983), and the five most recent years (1979, 1980, 1981, 1982 and 1983).

Examination of the study data reveals only modest average increases in predictability for the cars of each model year as one proceeds from one predictor to five. In particular, the mean tabular values for the indivudal problem areas increased by less than .10 units. The individual problem areas for the five-model-year sample which increased most in predictability with an increase from one-to-five predictors were body hardware and manual transmission.

The Major Study Findings

To sum up, the statistical analyses lend support to the following generalizations for the 1975-79 model cars:

1. Frequencies of used car problems reported in Consumer Reports in one year are an excellent predictor of frequencies of used car problems appearing in Consumer Reports in the following year.
2. Year-to-year predictability varies substantially by individual problem area with some areas, such as body integrity, being far more predictable than others.
3. As the cars of a given model year age (from brand new to five years old) their record of individual problem areas experienced in the recent past (i.e., the just-completed year) becomes more useful as a predictor of individual problem areas to be experienced in the year ahead.
4. With the exception of a few areas (notably body hardware and manual transmission problems), multiple correlation efforts to increase the predictability of used car problem frequencies (by using more than one year's survey results) yield only modest gains beyond those achieved through the use of simple bivariate correlational techniques.

REFERENCES

1. Anonymous (1986), "Used Cars: Good Bets and Bad," Consumer Reports, Vol. 51, No. 4, pp. 264-266.

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN CONSUMER INFORMATION AND SATISFACTION WITH FOOD MARKETING SERVICES

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ABSTRACT

Providing in-store consumer information has often been suggested as a means of improving customer satisfaction and generating sales. Yet, a search of the literature did not uncover any empirical test of this relationship. A conceptual model depicting the linkages between the provision of information and both increased satisfaction and higher sales volume was developed. An empirical test of the model was conducted at a warehouse foodstore where an information program had been implemented one year prior to the study. The results of the test confirmed the posited relationships.

Advocates of consumer education have asserted that the need for information is central to purchase decisions. Consumers want and need information that will aid them in making effective choices in the marketplace. To fulfill this need, the information must focus on salient product attributes, be available at the point of purchase, and be easily processed and comprehended by those for whom it is intended.

Being cognizant of the need for information, food retailers have begun to engage in education/information programs [15, 19] Many of these are general in that they provide educational/informational printed materials on nutrition, recipes, and answers to consumer questions. However, several supermarket chains have targeted their educational efforts to specific product categories. Since meats have traditionally accounted for up to 35 percent of retail food store sales volume, the decline in consumption of red meats [27] has had a negative impact on supermarkets [23] Spurred on by the marketing efforts of trade associations, several supermarket chains have begun to engage in consumer information and education programs for meat products.

These programs are perceived to be beneficial to both consumers and food retailers. In-store information/education programs should raise consumer confidence in the retailer resulting in in higher levels of satisfaction. Increased satisfaction should lead to increased product purchases resulting in increased profits for the retailer. Although it has been implied in the literature that the provision of consumer information will lead to increased satisfaction with products and with the total shopping environment, these effects have not been empirically tested.

The intent of this study was to measure the effects of an in-store information/education program in a supermarket environment. Evidence of increased consumer satisfaction and increased product purchases should contribute to growth in the number of information programs in retail markets which will be beneficial to consumers and to the business community.

RELATED LITERATURE

A review of the literature in consumer behavior, consumer affairs, home economics, nutrition education, and retailing failed to uncover studies regarding the effects of information/education programs on consumer satisfaction with retail markets. Several conceptual papers on consumer information programs implied or projected that consumers would be more satisfied and that providers would benefit, but none of the papers reviewed provided specific empirical evidence of these relationships. Selected studies within the areas of consumer information/education, retail patronage and store preference, and consumer satisfaction were reviewed to identify criteria for effective programs, factors which contribute to store patronage, and methods for measuring satisfaction.

CONSUMER INFORMATION PROGRAMS

Research on the development of information/education programs has focused on programs for public policy implementation [5, 6, 36] or on the development of independent consumer information systems [10, 12, 35]. Capon and Lutz [6] presented a methodology for the development of a program conceived within the marketing framework. Day [8] proposed that the evaluation of consumer information programs be based on a hierarchy of effects model. He suggested that the process of adoption of information is slow and it occurs in stages. Prior to adoption, consumers must be aware of and comprehend the information. Aaker [1] in a conceptual paper, made recommendations for a corporate consumer information/education program, and predicted benefits to the firm. Each of the papers reviewed emphasized the importance of developing an information program from the consumer's point of view. These authors suggested the following: the information must be relevant; it provide something not previously known; it be available at the point of decision; several modes of presentation be employed to appeal to slightly different audiences; and that the information be easily assimilated.

Aaker, citing Giant Foods' market share, predicted that providers of the information program would benefit by improved customer satisfaction, a better customer image of the firm and increased profits in the long run. Day [8] presented data from selected studies on information disclosure which suggested that there were general and specific effects of information programs and that providers would benefit in terms of consumer confidence and satisfaction once they were aware of the information and had developed a positive attitude toward it. Actual use of the information or behavioral changes were not requisite to an assessment of the benefits.

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STORE PREFERENCE AND STORE PATRONAGE

Studies on store preference have indicated that supermarket store choice is based primarily on locational convenience, low prices, and assortment of merchandise [4, 22]. Monroe [6] suggested that shopper characteristics and retail strategies influence general opinions and attitudes toward the store and affect store choice. Information processing within the store leads to product choice which feeds back to influence individual opinions and attitudes toward the store.

According to Engel and Blackwell [11] repeat patronage is extremely important to the food retailer because stores with the largest number of loyal customers control the largest share of the market. Studies [13, 16, 17] have shown that loyalty among food shoppers is generally low and that warehouse foodstore shoppers are inclined to be less loyal than those who shop the traditional supermarket.

Awareness of low prices, convenient location, and assortment of merchandise as salient to store choice is of limited use to the food retailer interested in building store traffic and increasing sales. The location and square footage are fixed in the short run; therefore, it may not be feasible to be more locationally convenient or to significantly increase the assortment of goods. Whether a particular food retailer could lower prices and operate profitably given their traditional low profit margins is a matter of conjecture. Evidence of low loyalty among warehouse shoppers where prices are reputedly low, raises doubt to the benefits of lowering prices if it were possible. Hence store attributes which could be manipulated by the retailer must be identified to be incorporated into retail strategies.

Levitt [21] indicated that for marketers to maintain their profit positions, they must enhance their offerings of products by helping to solve the buyers' problems. The provision of consumer information/ education programs is a service of the food retailer which aids shoppers in this regard. Thus these programs have the potential for increasing store traffic and sales through increased consumer satisfaction.

CONSUMER SATISFACTION

The consumer satisfaction/dissatisfaction paradigm has evolved over the past decade [3]. One major research track that has emerged focuses on the the conceptual and methodological issues in defining and measuring consumer satisfaction and dissatisfaction [14, 29, 34] Oliver's work, based on adaptation theory, provided an understanding of the illusiveness and temporal nature of satisfaction and of the relationship between the major constructs of the CS/D paradigm [30, 31, 32]. He postulated a sequence of effects based on the relationship between attitude, expectation, satisfaction, and intention. Through empirical studies, Oliver was able to distinguish between these constructs. He concluded that the disconfirmation of expectations was a factual assessment based on the performance of the product. Satisfaction was an emotional response involving the liking or disliking of of the disconfirmation experience, and satisfaction provided feedback which affected attitudes and intentions related to future purchases. Oliver [29] also concluded that consumer satisfaction was an evaluation of the total purchase experience and that satisfaction with retail stores was a factor of satisfaction with the store attributes and with the product category.

Issues of measurement related to consumer satisfaction have been addressed in several of the reviewed studies [2, 7, 9, 25, 29]. Major problems include the timing of the measurement, the referent state, and reactivity of the instrument with the satisfaction state. Global measures and attribute composite measures have been used to assess the construct. Disconfirmation of expectations has also been used as a measure of satisfaction. At the present time there does not appear to be any consensus or research tradition in measurement of consumer satisfaction.

THEORETICAL FRAMEWORK

The literature on information suggested that the provision of a consumer information would benefit the provider [1]. Consumers who responded to the program would be more satisfied with the decision process, with the product, and with the purchasing environment [8]. The literature on store patronage suggested that retailer strategies contribute to store patronage, and that in-store information processing leads to product purchasing [26]. The literature on consumer satisfaction suggested that satisfaction leads to post purchase attitude, which leads to intentions to repurchase [31]. The relationship between consumer information/education programs and satisfaction is represented by the conceptual model in Figure 1.

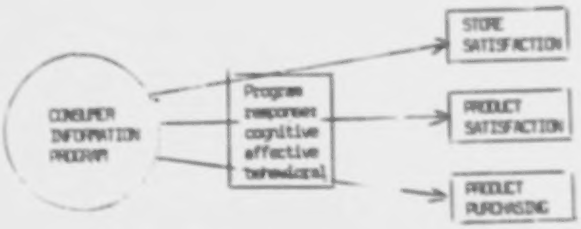

Figure 1: The Conceptual Model

collection. This was a three part program comprised of 60 second video presentations, brochures which provided further information on the featured meats, and recipe cards along the meat counter. The warehouse foodstore was selected because the information program utilized different modes of presentation as recommended by Aaker [1] and it was specific to meats which account for the largest share of the food budget [25] Because the image of warehouse foodstore meat departments is generally poor [16, 17] an in-store information program would be more likely to create a measurable effect than if it were tested at a foodstore known for its meat department.

A cross sectional survey design was incorporated into a store intercept study. The study measured the effects of a treatment through intervention. All shoppers were exposed to the information program and had the opportunity to accept or reject it. Product purchases and levels of satisfaction among shoppers surveyed were measured and compared on the bases of their response to the program.

INSTRUMENTATION

Two instruments were developed for the study. The first was an instrument to evaluate the quality of the consumer information materials utilized by the store. Two experts in the field of food and nutrition were asked to evaluate the program materials on the bases of objectivity and completeness. The recipe cards (which included information on meat selection, preparation, or nutrition), the brochures, and a video presentation were found to be acceptable and appropriate for use with average supermarket shoppers.

The survey instrument developed for this study was divided into two parts on the basis of method of administration. The first was a six page self-administered questionnaire. This included the items to measure satisfaction with the store and with the meat department. Also included were twenty-one attitude, interest, and opinion items related to food shopping and preparation. The second part was a three page interview questionnaire which queried respondents on their use of the information program, shopping habits, and demographic data.

The instrument was pretested at the data collection site. Cronbach's alpha for internal consistency was above .80 for all multi-item and indicator scales in a pretest with 25 shoppers at the experimental store.

VARIABLES

To operationalize the concepts, three indicators were used to measure each of the five constructs of the conceptual model. The Consumer Information Program was operationally defined by the three part program in place at the warehouse foodstore. Program Response was defined by a cognitive, affective, and behavioral measure. Meat Purchasing was defined by the respondents' reports of the amount of meat purchased at this foodstore. Meat Satisfaction and Store Satisfaction were each defined by three types of measures used in previous satisfaction studies.

The measures of response to the program were attitude toward the program, perception of its usefulness, and use of the information presented. Attitude toward the information program and perception of its usefulness were each composite measures of five questions extrapolated from the questionnaire. Use of the program was measured by response to 13 direct queries on recall of the video presentation, selection and recall of brochures during the current or previous shopping trips, selection and use of recipe cards including preparation of the recipe or use of the information on the reverse side of the card.

Meat Purchasing was defined by the percentage of the meat budget generally spent at the experimental store (a recall measure), the number of meat items purchased on the date of the survey (observation), and whether the percentage of the meat budget spent at the store had changed (a recall measure).

Meat Satisfaction was defined by three indicators. The first was a composite score of three meat attributes previously identified as being associated with satisfaction with meats [14]. The second, a global measure of satisfaction, was based on one question which asked respondents how satisfied they were with the meat department. The third indicator, disconfirmation of expectations, was a composite of three questions which queried respondents on satisfaction with this meat department compared to other foodstores and shopping environments. Five point Likert type scales were used for all satisfaction measures.

Store Satisfaction was operationally defined by three indicators which included a composite measure of store attributes, a global measure of satisfaction, and a three item composite of questions which asked respondents to compare satisfaction with this store to other shopping environments. Sixteen store characteristics used in previous studies [15, 16, 22] formed the attribute measure. The remaining two, a global measure of satisfaction and the disconfirmation of expectations, were similar to those used for the meat satisfaction construct.

THE SURVEY SAMPLE

Two hundred seventy-seven shoppers were interviewed at the warehouse store during a four week period.Data were collected on Thursdays, Fridays, and Saturdays as 39.0% of consumers shop on these days (Food Marketing Institute, 1984). The offer of a token gift resulted in a response rate greater than eighty percent.

The sample represented typical warehouse food store clientele. The average household size was four persons and the largest share of shoppers interviewed was between the ages of 25 and 34 years. Fifty percent reported an average weekly

The model illustrates the benefits that accrue to the recipients of a consumer information program and to the providers of the program. The Consumer Information Program is defined as an ordered effort by an enterprise to provide product specific information that will help consumers in the selection and use of goods and/or services. Consumer information incorporates both consumer information and education.

Response to the Program by consumers is an intervening variable that is essential to the measurement of program's effectiveness. Awareness of the program and perception of its usefulness (cognitive), attitude toward the program (affective), or actual use of the information (behavior) responses could all be expected to moderate the projected outcomes.

Because the information is presented at the point-of-decision, product purchases should be expected to increase. The model posits that a positive response to a consumer information program in the shopping environment will lead to increased product purchases.

The purpose of the information program is to aid in the selection of specific products. Therefore, consumers utilizing the information should be able to make more informed choices in the marketplace, and experience higher levels of satisfaction with the products they select than consumers who do not use the information. Hence, the model posits that use consumer information programs will lead to greater product satisfaction.

Previous research suggested that satisfaction is a broad concept and that consumer satisfaction involves not only the object or product under consideration, but that it is a measure of the total experience surrounding its acquisition. It was also suggested that the provision of consumer information will lead to improved overall customer satisfaction. Therefore, the model further posits that satisfaction with the product/object of the information will contribute to satisfaction with the store, and that the provision of consumer information will lead to store satisfaction.

HYPOTHESES

This study was designed to provide an empirical test of the conceptual model. The purpose of the study was to define the relationship between the provision of a consumer information/education program and satisfaction with food marketing services. The specific objectives of this study were to determine whether an in-store information program focused on meats was associated with increased purchasing of meat products, satisfaction with the meat department, and satisfaction with the supermarket. Based on these objectives, the following hypotheses were formulated:

H_o1: An in-store consumer information/education program will be associated with increased meat purchasing by shoppers at the supermarket providing the program.

H_o1a: Shoppers who express a positive attitude toward the information program consumer information program will purchase more meat than shoppers whose attitude toward shoppers whose attitude toward the program is neutral or negative.

H_o1b: Shoppers who are users of the consumer information program will purchase more meat than shoppers who are nonusers of the program.

H_o1c: Shoppers who perceive the consumer information program to be useful will purchase more meat than shoppers who do not perceive the program to be useful.

H_o2: An in-store consumer information/education program focused on meats will be associated with on meats will be associated with higher levels of satisfaction with the meat department.

H_o2a: Shoppers who possess a positive attitude toward the consumer information program will be more satisfied with the meat department than those whose attitude is neutral or negative.

H_o2b: Shoppers who are users of the consumer information program will be more satisfied with the meat department than shoppers who are nonusers.

H_o2c: Shoppers who perceive the consumer information program to be useful will be more satisfied with the meat department than shoppers who do not perceive the program to be useful.

H_o3: An in-store consumer information/education program will be associated with higher levels of satisfaction with the store.

H_o3a: Shoppers who express a positive attitude toward the program will be more satisfied with the store than those whose attitude is neutral or negative.

H_o3b: Shoppers who are users of the program will be more satisfied with the store than shoppers who are nonusers.

H_o3c: Shoppers who perceive the consumer information program as being useful will be more satisifed with the store than shoppers who do not perceive the program to be useful.

PROCEDURE

The field test was conducted at a warehouse foodstore in the northeast where an in-store information program, focused on meats, had been implemented one year prior to the data food bill of $100.00. Half of those interviewed shopped at the warehouse store once per week and half had been patronizing this store for more than three years. Store loyalty was low as 78.1% reported that they shopped at least one other foodstore.

DATA ANALYSIS

Analysis of the data to assess the the model was divided into three sections. The first section examined the reliability and validity of the indicators used to measure the constructs. The second section presented the tests of the hypotheses, and the third was concerned with the validation of the model.

The data were analyzed to test the hypotheses and to validate and assess the completeness of the model. Independent sample t-tests and Pearson product-moment correlations were used to test the hypotheses. The total sample [n=277] was split to test the sub hypotheses which stated that there would be differences between shoppers who responded positively to the consumer information program and shoppers whose response was negative or neutral. Cut scores were used to distinguish between positive and negative responders on attitude, perception of usefulness, and use of the information.. In establishing the cut scores an attempt was made to have equal sample sizes. Scores clustered around the point of ambivilance were not included in the analysis. Because the clustering differed for each indicator, the sample sizes used for these analyses varied.

RESULTS

Cronbach's alpha for the measures of the constructs was at or near the minimum .70 specified for widely used measures (Nunnally, 1967) as shown in Table 1. Pearson product-moment correlation coefficients between and amongst the indicators for each construct were positive and statistically significant at 0.000. Correlation coefficients for the constructs were also positive and statistically significant.

Table 1
Standardized Alpha coefficients for construct measures.

Construct Measure	Alpha
Response to the Information Program	.76505
Meat Purchasing	.62350
Meat Satisfaction	.89597
Store Satisfaction	.76677

The three major hypotheses of the study were confirmed based on Pearson product-moment correlations. The nine sub hypotheses were confirmed based on the results of independent samples t-tests.

Hypothesis one postulated that an in-store consumer information program would be associated with increased meat purchasing by shoppers at the supermarket providing the program. The correlation between the constructs (r = 0.303) was positive and statistically significant (p <.000). The three sub hypotheses were confirmed as shown in Table 2. Shoppers who responded positively toward the program in terms of attitude, use, or perception of usefulness purchased more meat than those whose response was neutral or negative.

The mean scores on the indicators were derived from the percentage of meat purchased at the store, whether the shoppers had increased or decreased the percentage of meat purchased, and the number of meat items purchased on the date of the interview. As shown in Table 2 there was a sizeable difference in the scores between the positive and negative responders. The variance in the scores of negative responders was larger than among those who responded positively.

Table 2
Comparison of positive and negative or neutral responders toward the Consumer Information Program (CIP) on the construct of Meat Purchasing.

Indicator of CIP	Negative/neutral n	Mean	SD	Positive n	Mean	SD	t^a
Attitude	94	64.57	37.58	87	84.39	32.25	3.79***
Use	123	65.86	37.91	115	87.72	27.93	4.81^a***
Usefulness	76	69.75	37.54	77	87.00	24.46	3.39^a**

^{a}Separate variance t-test based on F test for homogeneity of variance
** p < .005
*** p < .000

Hypothesis two postulated that the consumer information program would be associated with higher levels of satisfaction with the meat department. The Pearson product-moment correlation (0.295) between the Consumer Information program and Meat Satisfaction was positive and statistically significant thereby confirming hypothesis two. The sub hypothesis which stated that shoppers who purchased more meat would be more satisfied with the meat was also confirmed by a correlational statistic of r = 0.510, p < .000. The sub hypotheses which proposed differences between positive and negative responders were also confirmed as shown in Table 3.

Table 3
A comparison of positive and negative or neutral responders toward the information program on the construct of meat satisfaction.

Indicator of CIP	Negative/neutral n	Mean	SD	Positive n	Mean	SD	t^a
Attitude	94	27.97	6.30	87	30.85	4.88	3.82**
Use	123	28.24	6.31	115	30.34	4.72	2.89**
Usefulness	76	27.12	6.27	77	31.64	2.95	5.08***

^{a}Separate variance t-test based on F test for homogeneity of variance
** p < .005
*** p < .000

The mean scores in Table 3 were derived from summing the scores on three indicators for meat satisfaction. These included measures of meat attributes, disconfirmation of expectations, and a global satisfaction score.

Hypothesis three postulated that an in-store consumer information program would be associated with higher levels of satisfaction with the store. The pearson product-moment correlation coefficient (0.389) was positive and statistically significant. The sub hypothesis which stated that shoppers who were more satisfied with the meat department would express higher levels of satisfaction with the store was confirmed ($r = 0.494$, $p < .000$). The three sub hypotheses which stated that those who responded positively toward the program would express higher levels of satisfaction with the store than those whose responses were negative or neutral were confirmed as shown in Table 4.

Table 4
A comparison of positive and negative or neutral responders toward the information program on the construct of store satisfaction.

Indicator of CIP	Negative/neutral n	Mean	SD	Positive n	Mean	SD	t[a]
Attitude	94	83.71	8.72	87	91.46	8.53	6.02***
Use	123	85.27	10.08	115	88.45	2.80	2.89*
Usefulness	76	80.74	9.11	77	92.14	7.98	8.24***

[a] Separate variance t-test based on F test for homogeneity of variance
* $p < .01$
*** $p < .000$

The mean scores given in Table 4 were derived from summing the scores of the three indicators used to measure the construct. Although the differences between positive and negative responders were statistically significant for each of the three indicators, effect sizes differed amongst the three tests. The effect size was smallest for the behavioral indicator (use), and the difference in variance between groups was the largest.

DISCUSSION AND CONCLUSIONS

The study provided empirical evidence that the provision of a product specific in-store information program would be beneficial to consumers and to the program provider. The shoppers interviewed for this study who responded positively toward the program either by direct use of the information, attitude toward the program, or perception of usefulness purchased more meat, were more satisfied with the meat department and with the store than those who responded negatively.

Although actual use would be the ultimate response to the Consumer Information Program, equal attention was give to attitude toward the program and perception of its usefulness. Previous studies [1, 6, 8, 10] have indicated that cognitive and affective response to information disclosure might yield positive outcomes in the absence of the behavioral measure of program use. The data presented here evidenced this trend. The mean scores for measures of satisfaction were higher for nonusers of the information program than for negative responses on the remaining two indicators. Failure to use the information might be the result of lack of time or belief that one already possesses sufficient information on the topic. However this nonuse does not preclude a positive attitude toward the information or a perception that the information is useful to others.

The conceptual model for the study posited a relationship between the provision of a consumer information program and consumer satisfaction with food marketing services. The results of the study indicated that there is a positive relationship between the provision of an information program and consumer satisfaction. Because this study was based on a cross sectional survey design with intervention on a treatment and the conclusion is based on statistically significant correlations between the two variables, no assumption of causality can be made. As shoppers who responded positively toward the program were more satisfied with the meat department and with the store, it was concluded that there is a relationship between the provision of consumer information and consumer satisfaction with food marketing services. This conclusion is limited to those shoppers who are likely to have a positive attitude toward consumer information, perceive the particular information program to be useful, or actually use the program.

In measuring the relationship between the provision of an in-store information program and increased satisfaction, the program was viewed from the consumer's perspective. The Consumer Information Program was operationally defined as response to the program materials. The results of the study indicated that whether response was measured in terms of use of the program, a positive attitude toward the program, or perceived usefulness of the program, shoppers who responded positively expressed higher levels of satisfaction with the meat department and with the store. Therefore it was concluded that if benefits are defined as satisfaction with the marketplace, consumers did benefit from the provision of the in-store information program.

The benefits to the provider of the Information Program were measured directly in the form of increased purchasing of meat and indirectly by the increase in consumer satisfaction which could culminate in increased patronage. The results of the study indicated that those who responded positively to the program, purchased more meat, and were more satisfied with the meat department and the store. Therefore, it was concluded that the Consumer Information Program benefited the provider directly through increased purchasing of meat products by users of the information program, and indirectly through satisfactions received by the store's patrons.[2]

The conceptual model proposed a positive relationship between the provision of consumer information and increased satisfaction and product purchasing. The model was validated by analysis of the data. Positive response to the information program was explained by increased meat purchasing, satisfaction with the meat department, and satisfaction with the store. The reverse of this position was not confirmed. Due to instability and variation in the scores, negative response was not explained by the model in terms of lower levels of meat purchasing, satisfaction with the meat department, and satisfaction with the store. This was not unexpected as previous studies have shown that there are a multitude of factors (low prices, convenient location, assortment of merchandise, etc.) that contribute to store preference and patronage.

RECOMMENDATIONS

The results of this study have implications for the need for additional consumer and market research on information use and for producers and retailers as providers of consumer information.

Further research should be undertaken to explain negative responses to a consumer information program and to identify modes of presentation that would result in usership. There is a need to identify characteristics of nonusers of information provided in a variety of environments. It is not known whether the nonusers are simply information avoiders or whether nonuse is a factor of the type of information provided or the format used.

As usefulness of the program materials was found to be the strongest of the three measures, usefulness of the program materials should be the primary concern of program developers. To enhance usefulness, materials should provide information that is salient to the shoppers. For meat products salient information might include the value for the dollar measured in cost per serving, nutritional information, alternative preparation ideas, and storage. Several modes of presentation should be offered for food store information programs to appeal to a variety of market segments. This is of critical importance for food retailers as shoppers for a given store cannot be segmented on demographic or psychographic characteristics and are generally representative of a cross section of consumers.

Providers of consumer information should encourage use of the materials and should attempt to increase their visibility. Attention could be focused through the use of product spotters and by incorporating the information with other promotional materials such as coupons or newspaper ads. Providers should experiment with locations for the information materials within the store. Visuals such as video machines should be located in an area where shopper movement is naturally interrupted. Areas such as the deli counter or the checkouts provide such a location. If the visual is concerned with a specific product category, it should be placed in proximity to the product to aid the shopper at the point of decision.

Food retailers should engage in consumer information programs as these can be of particular benefit in upgrading the image of the whole store, upgrading the image of a particular product category, and increasing levels of purchasing.

REFERENCES

1. Aaker, David A. (1982) "Developing Corporate Consumer Information Programs." Business Horizons, (January-February), 32-39.

2. Aiello, Albert, Jr., John A. Czepiel, and Larry J. Rosenberg, (1977) "Scaling the Heights of Consumer Satisfaction: An Evaluation of Alternative Measures," in Consumer Satisfaction, Dissatisfaction and Complaining Behavior, Ralph Day, ed., Bloomington, Indiana: Indiana University, 33-50.

3. Arndt, Johan. (1984) "Paradigms in Consumer Research: A Review of Perspectives and Approaches." Paper presented at the American Marketing Association Theory Conference, February, 1984.

4. Arnold, Stephen. J. and Douglas J. Tigert, D.J. (1978) "A Comparative Analysis of Determinant Attributes in Retail Store Selection," in Advances in Consumer Research, Jerry C. Olson, ed., Ann Arbor: Association for Consumer Research, 83-88.

5. Bettman, James R. (1975). "Issues in Designing Consumer Information Environments." Journal of Consumer Research, 2 (December), 169-177.

6. Capon, Noel and Richard J Lutz. (1979). "A Model and Methodology for the Development of Consumer Information Programs." Journal of Marketing, 2 (January) 58-67.

7. Churchill, Gilbert. A. and Carol Suprenant. (1982). "An Investigation into the Determinants of Customer Satisfaction." Journal of Marketing Research, 1982, 21 (November), 491 -504.

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[2] Store records show that sales of a specific meat product increase by an average of 15 percent when the video presentation is used. The design of this study required that the multiple indicators to measure each construct be measured from the same perspective - ie. consumer response.

8. Day, George. S. (1976). "Assessing the Effects of Information Disclosure Requirements." Journal of Marketing. 40 (April), 42-52.

9. Day, Ralph L. (1982). "The Next Step: Commonly Accepted Constructs for Satisfaction Research." in International Fare in Consumer Satisfaction and Complaining Behavior, R. L. Day & H. K. Hunt eds., Bloomington, Indiana: Indiana University, 113-117.

10. Dunn, Donald. A. and Michael L. Ray. (1982) "A Plan for Consumer Information System Development, Implementation, and Evaluation." in Consumerism - Search for the Consumer Interest, (4th ed.) David A. Aaker and George S. Day, ed., (4th ed.). New York: The Free Press.

11. Engel, James. E., Roger D. Blackwell. (1982) Consumer behavior, 4th ed., Chicago: The Dryden Press.

12. Freiden, James B. "the Effect of Nutrition Information on Brand Rating: Test for a Non-Use Benefit." Journal of Consumer Affairs. 15. 107-113

13. Fulgoni, Gian M. and Gerald J. Eskin. (1981) "The Use of Behaviorscan Research Facility for Studying Retail Shopping Patronage," in Retail Patronage Theory Workshop Proceedings, Richard F. Lusch and William R. Darden (eds.). Placid, NY, 243-247.

14. Handy, Charles. R. and Martin Pfaff. (1975) "Consumer Satisfaction with Food Marketing Services." Unpublished paper.

15. Harris, Cherri. (1980). "Consumers Want Guidance from Grocers, As Well as Good Selection, Low Prices." Supermarket Business. (February), 24-56.

16. Heller, Walter, Len Kirsch, Mary Ann Linsen, Robert O'Neill, Larry Schaeffer, Ronald Tanner, and Ed Walzer. (1983). "Competitive Dynamics in the Marketplace," Progressive Grocer, (October), 29-52.

17. ____________ (1983). "Competitive Dynamics in the Marketplace, II," Progressive Grocer., (November), 55-74.

18. "In-store purchase decisions growing" (1986). Marketing News, September 26, 10.

19. Johnson, Mary. A. (1983) "Getting consumers to read all about it." Progressive Grocer, 62 (October), 105-110.

20. Kotler, Phillip. (1986). Principles of Marketing, 3rd edition. Englewood Cliffs, NJ: Prentice-Hall, Inc.

21. Levitt, Theodore (1983). "After the Sale is Over," Harvard Business Review, Cambridge, MA: (September-October), 87-93.

22. Lindquist, Jay D. ((1974-1975). "Meaning of Image: A Survey of Empirical and Hypothetical Evidence." Journal of Retailing, 50 2 (Winter), 29-38.

23. Linsen, Mary Ann. (1984) "Changing Meat Preferences: Health or Price Driven?" Progressive Grocer. 63 (February), 99-107.

24. McGrath, Joseph E. (1982) "Dilemmatics: The Study of Research Choices and Dilemmas," in Judgement Calls in Research, Joseph E. McGrath, Joanne Martin, and Richard A. Kulka, eds. Beverly Hills, CA: Sage Publications.

25. Miller, John A. (1977). "Studying Satisfaction: Modifying Models, Eliciting Expectations, Posing Problems, and Making Meaningful Measurement," in Conceptualization of Consumer Satisfaction and Dissatisfaction. H. Keith Hunt, (ed.). Cambridge, MA: Marketing Science Institute.

26. Monroe, Kent B. and Joseph P. Guiltinan. (1975). " A Path Analytic Exploration of Retail Patronage," Journal of Consumer Research. 2 (June), 19-27.

26. Nix, John D. (1984) "World Outlook for Livestock and Poultry." 1984 Agricultural Outlook Conference, Session #10, Washington, D.C. November 1, T-24 - T-27.

27. Nunnally, Jum. (1967) Psychometric theory. New York: McGraw-Hill, Inc.

28. Oliver, Richard L. (1980) "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," Journal of Marketing Research. 17, 460-469.

29. ____________ (1982). "Measurement and Evaluation of Satisfaction Processes in Retail Settings," Journal of Retailing, 57, 25-48.

30. ____________ and Gerald Linda. (1980). "Effect of Satisfaction and Its Antecedents on Consumer Preference and Intention," in Advances in Consumer Research, vol. 8. Kent B. Monroe, ed. Ann Arbor, MI: Association for Consumer Research, 79-86.

31. ____________ and Robert A. Westbrook. (1980). "A Factor Structure of Satisfaction and Related Post-purchase Measures." Paper presented at the Fifth Annual Conference on Consumer Satisfaction, Dissatisfaction and Complaining Behavior, St. Louis, MO, November, 1980.

32. Patton, William E. (1981). "Quantity of Information and Information Display Type as Predictors of Consumer choice of product Brands." *Journal of Consumer Affairs*. 15, 93-105.

33. Swan, John E. and I Frederick Trawick I.F., & Carroll, M.G. "Satisfaction Related to Predictive, Desired Expectations: A Field Study." Paper presented at the Fifth Annual Conference on Consumer Satisfaction, Dissatisfaction, and Complaining Behavior, July, 1980.

34. Thorelli, Hans. B. and Jack L. Engeldow. (1980). "Information Seekers and Information Systems: A Policy Perspective." *Journal of Marketing*., 44 (Spring), 9-27.

35. Wilkie, William. L. (1975) *How consumers Use product Information, An Assessment of Research in Relation to Public Policy Needs.* A Report Prepared for the National Science Foundation, 1975.

"THE ECONOMIC IMPERATIVE TO CONCEAL: WHY SELLERS HIDE INFORMATION ABOUT DEFECTS"

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ABSTRACT

It is inefficient to fight fires with every case of deception eventually discovered. Much more useful is an examination of the general principles which provide incentives for sellers to conceal information. The paper identifies three important cases and examines five factors which play a fundamental role in affecting concealment.

"Evil events from evil causes spring"

- Aristophanes

INTRODUCTION

The marketing of useless or dangerous products may sometimes be the work of evil persons - a devil theory. However, it is the contention of this paper, that a major explanation of market deception rests in the routine operation of the economic incentive structure.

Examples of mis-informed consumer purchases abound. For example, it has been reported that as much as 25% of the food passing through markets in India has been adulterated (Jacob, 1975). Fully 35% of the over-the-counter drugs appraised and agreed upon by two expert scientific panels in the U.K. were found to be "undesirable preparations" - defined as irrational combinations, obsolete preparations, or ineffective or dangerous drugs (Sainsbury Report, 1967). In the Best-Andreason survey of over 28,000 purchases, U.S. consumers perceived a problem afterwards in more than 28% of the cases (1976). In Thailand, 96% of respondents in a large survey by Thorelli and Sentell (1982) favoured government intervention in markets as a measure designed to improve the quality of products.

Why does this market deception persist? The competitive model assumes perfect information on all aspects that really matter. If there is inadequate information - and the consumer knows it - then the individual has reason to acquire units of information up to the point where the marginal benefit equals the marginal cost of search (Stigler, 1961). However, we will demonstrate in this paper that resources may be deployed to ensure that critical information is concealed resulting in too few units of search being undertaken. This matters much because it can lead to the lemons equilibrium described by Akerlof (1970).

Previous studies have recognized that there are some circumstances where a measure of fraud is likely. The main contribution to this theme is Darby and Karni (1973). Prior to that Nelson (1970), had identified search and experience qualities of a good (characteristics evident prior to purchase, and characteristics evident only after purchase, respectively). To this useful metric, Darby and Karni added "credence" qualities. These were defined as worthwhile characteristics that cannot be evaluated in normal use. That is, the assessment of the characteristics requires additional costly information. Thus the buyer must trust the judgement of the seller about the need for, or the value of, the "credence" good. This analysis is particularly useful for Darby-Karni problems where the seller is responsible for both the diagnosis (demand) and service (supply). In this context Darby and Karni establish the conditions under which an "optimal" amount of fraud is likely. An impressive number of important implications result from their analysis. Yet the analysis is, in an important sense, incomplete. It does not deal with a class of cases requiring expenses to conceal information which might be important to consumers. In the Darby and Karni model, the seller is passive with respect to the characteristics; whereas, in our model, resources are expended to "move" characteristics away from the "search" end of the spectrum. We explore this broader problem concluding that the misallocation of economic resources is significant. None of this shakes the Darby-Karni conclusion that there is some optimal quantity of fraud which must be tolerated. But our work suggests an optimal framework of incentives which can lower the quantity of fraud from the level which exists when incentives favor concealment.

The organization of the rest of the paper is as follows. In section 2, The Economics of Concealment, a simple heuristic model is developed and interpreted. Section 3, Factors Affecting Concealment, contains a discussion concerning the revenue, technological and cost impacts upon the decision to conceal. Finally we offer a brief conclusion in section 4.

The Economics of Concealment

It is necessary to recognize that some sellers may be well rewarded for (ill informed) sales of products which have defects, if these defects pertain to experience or credence characteristics of the product (in either case not detected before the sale). The hazards or the defects may be unimportant - or they may be absolutely vital. A method of viewing this is to posit that many products yield characteristics that are both good and bad. Cigarettes, for example offer both nicotine and carcinogens. In general, we use the word malefit to cover the sum of the negative characteristics. We are therefore interested in both goods and their defects (bads).

The production of any good (X) can be represented as

$$X = f(K, L) \tag{1}$$

where f is assumed strictly quasi-concave and given the cost of inputs P_K, P_L, cost minimization yields the cost function:

$$C = C(X, P_K, P_L) \tag{2}$$

If there is competition in the input markets, the function can be simply expressed as

$$C = C(X). \tag{3}$$

If a defect or a "bad" is associated with product X we may hypothesize that Y, the quantity of "bad" produced is such that

$$Y = Y(X) \tag{4}$$

where $Y \geq 0$ and $Y' > 0$ and $Y'' \geq 0$, i.e., the bad is an increasing function of the good. With a defective car this might be a linear relationship; with pollution or with a drug like clioquinal $Y'' > 0$ may be more plausible. For all products or services with non-zero Y, where there are positive amounts of malefit generated, the seller may employ any of three strategies: (i) ignore undesirable properties, (ii) devote resources to eliminate undesirable properties or (iii) devote resources to concealment. By considering each in turn we are able to examine the implications of each strategy.

Ignore Malefits. For $Y > 0$ this strategy requires the seller to recognize potential additional costs: the costs associated with being apprehended. Section 2 (ii) covers firms which intend to honour guarantees or to compensate consumers fully. The extra costs following apprehension for a firm employing strategy I may depend on voicing rates or on consumer complaint skills. In brief, if P_A is the probability of being apprehended, and C_A is the direct cost of being apprehended (where $C_A \geq 0$), the additional cost is $P_A(Y).C_A(Y)$, where $P_A', C_A' \geq 0$. Since normal practice excuses many defects under the caveat emptor principle, the word "apprehended" means being found out - not necessarily going to court - for discovery of any malefit implies at least a loss in goodwill. Further, the discovery of the malefit could lead to voicing expenses or to exit on the part of consumers and to a corresponding reduction in revenue for the firm.

Let R(X) be revenues if the bad is concealed and $\bar{R}(X)$ be revenues if the bad is seen where

$$\bar{R}(X) \leq R(X). \tag{5}$$

If $P_A(X)$ is the probability of apprehension, and $1 - P_A(X)$ is the probability of non-detection then with risk neutrality the expected profit π_1 is

$$\pi_1 = (1 - P_A)(R(X) - C(X)) + P_A[\bar{R}(X) - C(X) - C_A]$$

$$= R(X) - C(X) - P_A[R(X) - \bar{R}(X)] - P_A C_A \tag{7}$$

Let $D(X) = R(X) - \bar{R}(X) \geq 0$ with $D'(X) \geq 0$ thus

$$\pi_1 = R(X) - C(X) - P_A[D(X) + C_A]. \tag{8}$$

Simple maximization yields the profit maximizing output level X_1^* and the maximum expected profit, $\pi_1(\max)$.

Abatement or Elimination of Malefit. Let π_2 be the expected profit when this strategy is employed. Let Z equal the quantity of abatement, thus
$Z = -\alpha Y$ where $0 \leq \alpha \leq 1$. [$\alpha = 0$ implies strategy 1, i.e., do nothing, and $\alpha = 1$ implies complete elimination.]

Now assume

$$Z = -\alpha Y = F(Y, \alpha) = F(Y(X), \alpha) \tag{9}$$

and thus the cost of abatement C_{AB},

$$C_{AB} = C_{AB}(X, \alpha) \tag{10}$$

whereas the "new" level of malefit is $(1 - \alpha)Y = (1 - \alpha)g(X)$ and thus the probability of apprehension due to residual malefits will be reduced to $P_A[(1 - \alpha)Y]$ from $P_A(Y)$ and a corresponding reduction in C_A may eventuate.

This happy outcome is akin to "Honesty is the best policy." The cause, though, may have little to do with ethics and more to do with the expected level of expenses for product improvement, repairs, or warranties when appraised against the expected expenses of concealment.

In terms of our previously established notation the expected profit of this strategy π_2 is

$$\pi_2 = R(X) - C(X) - C_{AB}(X, \alpha) - P_A[(1 - \alpha)Y][D(X) + C_A] \tag{11}$$

Again this may be solved to yield output level (X), level of abatement (α) and maximum expected profit $\pi_2(\max)$.

Hiding the "bads". The cost of hiding information may be assumed to depend upon the quantity of bad produced and the desired level of concealment. Let the quantity of concealment be h where

$$h = - \beta Y = h(Y, \beta), \qquad 0 \leq \beta \leq 1 \qquad (12)$$

[where $\beta = 1$ is complete concealment and $\beta = 0$ implies there are no resources devoted to concealment, i.e., strategy 1 of no action], and thus the cost of concealment C_H

$$C_H = C_H(h, Y) = C_H(\beta, Y) \qquad (13)$$

If $0 < \beta < 1$ the perceived amount of malefit is as if $(1 - \beta)Y$ of malefit were actually produced, although Y is in fact produced.

If we allow the expected profit π_3 to be the profit accruing when strategy 3 is employed then

$$\pi_3 = R(X) - C(X) - C_H(\beta, Y) - P_A((1 - \beta)Y)\,[D(X) + C_A] \qquad (14)$$

and $Y = g(X)$.

Again the maximum expected profit $\pi_3(\max)$, the profit maximizing output level X, and the quantity of concealment may be determined.

Thus we are now in a position to compare the three strategies. Now if $\pi_3(\max) > \pi_2(\max)$, or $\pi_1(\max)$ i.e. the expected profit following concealment is greater than the expected profits following either strategy (i) or (ii) then resources will be expended upon concealment.

The general proposition involved here is that, if economic enterprises are not to be run as social services but as profit maximising firms, then in certain predictable economic circumstances, resources will be devoted to concealing unfavourable information.

There are two particular cases of note:

A) $\pi_3(\max) > \pi_2(\max), \pi_1(\max)$ where $\pi_1(\max)\ ;\ \pi_2(\max) < 0\ ;\ \pi_3(\max) > 0$ (15)

B) $\pi_3(\max) > \pi_2(\max), \pi_1(\max) > 0.$ (16)

In case (A) the product would not be produced unless there is concealment of the malefit. Here not only are resources being diverted to concealment, additionally we witness production of an inappropriate product.

In case (B) again we witness the wasteful diversion of resources in order for the firm to enhance profits.

In either case economic rationale implies that resources will be diverted wastefully into the production of concealment. We now focus our analysis on the individual factors affecting concealment and on some potential policy implications.

Factors Affecting Concealment

Assuming the firm chooses to conceal malefits, then we have expressed the expected maximum profit π_3,

$$\pi_3 = R(X) - C(X) - C_H(\beta, Y) - P_A((1 - \beta)Y)[D(X) + C_A] \qquad (17)$$

where $Y = g(x)$

i.e. $\pi_3 = F(X, Y, D(X), \beta, C_H, P_A, C_A)$

We wish to focus upon the importance of the impact of $D(X)$, β, C_H, P_A and C_A. These factors are:

$D(X)$ - marginal revenue impacts
β - technical productivity factor
C_H - cost of hiding
P_A - probability of apprehension
C_A - cost of apprehension

Broadly speaking these parameters represent revenue, technological and cost impacts.

D(X) - Marginal Revenue Impacts. This effect depends on the selling price or the price elasticity of demand as governed by competitive conditions in the output market. In general the situation calls for an absence of competition or at the least goods with experience/credence qualities. Concealment is inconsistent with perfect information and usually becomes worse as monopoly is approached.

In the longer run MR is affected significantly by whether the seller expects a "once only" sale, or if repeat transactions are a possibility. In the latter case the expected discounted value of future sales becomes significant. This explains why a consumer is at greater risk facing a travelling salesman at the door than facing the community shop-keeper. It also has much explanatory power in high risk markets in the third world. This situation can be posed as the repeat transactions condition: the lower the expected number of repeat transactions, the more likely is concealment. This condition parallels a Darby and Karni conclusion concerning the optimal amount of fraud.

β - The Technical Productivity Factor. The marginal price of concealment depends on technical factors and their ability to conceal defects, hazards etc. from consumers. We have for heuristic purposes simplified these factors in our "β" term. However, this impact is complex in that it depends on the balance between the march of science (at deception) and the consumer's investigation/interpretation skills. The second part is, in our view, important, but it has been discussed elsewhere as consumer search capital (Kerton, 1980) and we will set it aside here.

The productivity of deception is perhaps highest when resources of the state are used to produce the misinformation. This point is made all too clearly in George Orwell's Nineteen Eighty-Four with the "Ministry of Truth". Few dictatorships espouse consumer rights, and in the international arena, government-owned suppliers have been a special problem. It would be comforting if market-oriented economies were immune to this sub-type of concealment of negative information, but this is not always the case. A telling example was provided by the United States Department of Defence at the time when 6000 sheep were killed or sickened on land near the Utah site where nerve gas was being tested. Initially the Army denied that it was testing the lethal gas at that time, and subsequently it denied that there had been a malfunction in the test. Later it would not release an unclassified summary of the accident. From the evidence it seems that other accidents may have occurred but that earlier efforts at concealment were effective, so no search costs were undertaken (Science, 1968; pp. 1460-4).

Another most efficient concealment device (as measured by the quantity of concealment per unit of cost) is self-governing boards created by the licenced professions in many countries. These agencies can conceal malefits and keep information from spreading, indicating the technical productivity of this method of concealment. A list of tactics which we think can be used to hide information, and a set of policies to improve the situation are given in Slayton and Trebilcock (1978). More generally, analysts refer to this strategy as regulatory capture.

Aside from public goods which are misused for concealment, the science of deception is well developed and has been for a long time. In a review of adulteration practices in the 1700's one author details how intermediaries supplied bakers with "sharp whites" (flour containing alum) to be mixed in with old flour so that bread that would otherwise be grey would turn out white (Accum, 1820). Industry was organized to supply the adulterants. Accum writes: "There are wholesale manufacturing chemists, whose sole business is to crystallize alum, in such a form as will adapt this salt to the purpose of being mixed in a crystalline state with the crystals of common salt, to disguise the character of the compound." (1820; p.136). Even in the 1700's industry could supply bakers with two grades of defective pepper and a broad range of other adulterants. Thus throughout history we have had a supplying industry responding to market incentives and providing resources to help produce concealment. "Food adulteration, in fact, is a highly organized industry in India." [Mandanna, 1982; p. 31]. In India one can buy white stones ground precisely to resemble rice, or wood created as a careful imitation of wheat.

There is no need to go to the Third World for examples. When we know more about Industrial Bio-Test labs (IBT) we may learn that the market has responded to the demand for (pseudo-) scientific tests which conceal hazards from the Food and Drug Administration. There seems to be no doubt that IBT sold fraudulent results of tests. An official from the Food and Drug Administration discovered - all too much by chance - "reports on the use of live test animals after they had been reported killed in earlier experiments." (Science News: 1981: p.11). In addition "IBT's records showed evidence of ... data that had been doctored to obscure potential harmful effects of chemicals." (Science News, p.11). Next, we need to know if there was an especially high chance that IBT would be chosen as the tester for those products which were thought to be exceptionally dangerous. Sellers of effective products and these without serious side effect have just as much interest in policies which can remedy this situation as do consumers. Honest sellers are, after all, threatened by the extinction guaranteed by a 'lemons equilibrium'. The first step toward a workable public policy is to recognize that in certain economic circumstances, state-of-the-art technology can be used to affect the technical productivity factor.

The Private Cost of Concealment. The hiding of information (or the provision of misinformation) is not always criminal in nature. Even so, it is helpful to adopt Becker's approach to the economics of crime (1968). Concealment is a risky activity because unsuccessful attempts to hide negative information or to provide untrue positive information may be punished - sometimes by law but more often by the exit or voice of consumers. The main variables in determining the private cost are:

$$C_H + P_A(C_A + E)$$

where we previously defined
C_H as the direct cost of hiding information
P_A as probability of being apprehended
C_A as the cost of being apprehended
and we introduce E to account for any personal psychological cost from embarrassment.
Let us examine the components in more detail

Direct Expenditure on Hiding: C_H. In his famous essay on dissimulation, Sir Francis Bacon argued that there is "great advantage" to a policy of less than perfect information, one reason being "... to lay asleep opposition ..." (Selby, 1955; p. 14). Evidently he felt that
$C'_H > 0$
$C''_H < 0$
for he argued for "dissimulation in seasonable use," possibly having in mind some notion of law of variable proportions, and certainly having in mind an optimum quantity of resources to allocate to hiding.

It may well be that a small number of product failures need not be hidden while increased sales provide enough public examples of failures to attract the attention of potential consumers. In a routine case, C_H may merely be the cost of an advertising campaign (for an inferior brand) to produce enough noise to confuse consumers. Or, after a testing organization publishes results, a manufacturer may change only the product identification number - or he may announce that the product is "new". A simple example of C_H is the expense for financing the Tobacco Research Institute which published research down-playing the risk of cancer. Ralph Nader's Unsafe at Any Speed (detailing known defects in the Corvair) provides in this framework, another example of concealment.

There is also a natural condition which makes concealment easy or costly: some malefits are intrinsically harder to see. Disposable bottles may be more visible than tariff malefits. Or hydrogen fluoride may be less easy to "find" than sulphur dioxide, but more harmful. The United States Congress apparently believes this, for, partly in response to 17 million accidents from products used around the home, a 1972 law passed because, among other things: "The Congress finds that - ... (2) complexities of consumer products and the diverse nature and abilities of consumers using them frequently result in an inability of users to anticipate risks and to safeguard themselves adequately ..." (1973).

At a minimum we can pose the condition that "concealment will be less costly when products and services are complex".

The Probability of Being Apprehended, P_A. If concealment is even partly successful, it will reduce the portion of consumers who find out about the malefit. Beyond that is another important factor. The legal system fails to recognize that information lags and prosecution costs (including time and anxiety costs) make it economic for offenders to operate on the assumption that only a few of those afflicted will be willing to bear the expenses of finding out their rights and exercising them. For example, experience shows that some automobile insurance companies, even when their liability is clear, have made a practice "of completely denying small claims or attempting to apportion fault." A consumer who understands this may correctly decide not to complain - reducing P_A. Unfortunately, this structure of incentives is counter-productive because, the lower the probability of being apprehended for concealing a malefit, the more resources will be devoted to concealing the malefit.

Routine methods which may be employed by the firm for lowering P_A are, first, a campaign to delay or reject legislation, and secondly, if necessary, opting for a regulatory agency. Next is the placing of sympathetic persons in the sensitive positions, usually on the grounds that only "interested" people have the expertise needed. There are several dimensions to this problem: first there is widespread doubt that regulators can regulate in the first place. If that is not sufficient, there is the above mentioned problem that those to be regulated have an economic incentive to invest in the selection of "suitable" appointees. This can be handled as part of standard investment theory. Regulatory capture is a singularly effective way to lower the probability of being caught concealing information. In its worst form it would be the lemon producers getting the job of catching themselves - and getting paid for their lack of zeal at public expense. Finally, regulatory boards, for their own bureaucratic reasons (perhaps to "protect" themselves) conceal information as a matter of course. This implication is drawn clearly in Darby and Karni (1973). The upshot is that some alleged policing effort really operates to lower the probability of being caught. In general, the probability of being apprehended is low whenever the effective policing effort is low.

The Costs of Being Apprehended: C_A and E. Becker's treatment is again a useful start: "Mankind has invented a variety of ingenious punishments to inflict on convicted offenders: death, torture, branding, fines, imprisonment, restrictions on movement and occupation, and loss of citizenship ..." (1968; 179). These pre-require social action to generate the legislative rules which will actually impose the penalty. Anyone who has observed the inability of the courts to conduct economic analysis will agree at least with Stigler's claim that "... the penalty structure is not well designed for either deterrence or guidance of enforcement" [1970; 534]. For the set of consumer problems addressed by the use of courts, C_A can almost always be increased by changing the problem into a simple two party case by allowing class action suits. Further, restitution orders could be more widely used. More importantly, use might be made of lump sum repayments where the members of a class injured by a deceptive practice could not readily be ascertained or where pecuniary loss suffered by the members was too small to justify individual payments. Even so, the best intentions may pave a road which goes astray, as was illustrated by the Profile Bread gambit. The makers of Profile Bread advised weight-watchers that its product had fewer calories per slice - without providing the information that this triumph of twentieth century ingenuity was achieved by cutting the slices thinner. The company was required by the FTC to devote 25% of the next year's advertising budget to correcting the misinformation. This noble intent to increase C_A did not succeed because, under the ruling, the optimal advertising budget quickly went to zero. [See Consumer Reports, 2972; 525-6].

Beyond the court approach to influence C_A is a second set of costs imposed through effects on market shares (discussed above as MR). A third type of costs can be levied by consumers either individually or acting in concert, and many of the policies available are listed as "leverage in seeking redress" in Maynes [1976; pp. 207-245].

Some of these strategies for leverage attempt to raise E, the cost of embarrassment to the seller. Clear gains are often possible, though some sellers are immune to embarrassment, responding onl to costs which affect the financial statements. An illustration is provided by the misinformation about breast milk substitutes provided by marketing tactics such as having salespersons dressed as nurses. An effort was made to shame the companies into more ethical behaviour; but policies affecting the E term were less effective than the products boycott directed at the financial variable (MR above). There are many socio-market circumstances where E appears to have a value of zero, implying that in the short run E is not susceptible to consumer policy. In markets in the Philippines sellers often take pride in deceiving consumers (Montiel, 1977). "In Thailand, as in many LDC's, chicanery is not unethical - it is a game" (Thorelli and Sentell, 1982; p. 156).

If P. T. Barnum uttered "There's a sucker born every minute" he may not have felt a high E value. The history of U.S. pharmaceutical regulation shows certain firms to be immune from any pangs of conscience. When Dr. James L Goddard became commissioner of the Food and Drug Administration in 1966 he was "shocked" at the quality of some of the test data being submitted by drug companies. He protested "... the deliberate choice of clinical investigators known to be more concerned about industry friendships than in developing good data ..." and very much to our point the protested "... conscious withholding of unfavorable" results [Mintz, 1976]. In 1985 the U.S. Justice Department filed charges against Eli Lilly & Co. for failing to tell the government about four deaths and six illnesses related to its arthritis drug Oraflex. Lilly pleaded guilty to 25 counts. Business Week (1985) reported that "Lilly down-played the charges as technical misdemeanors." On the basis of the experience of the International Organization of Consumer's Unions, it does appear that the level of conscience exhibited by corporations differs across industries. On average, Lydenberg et al (1986) found that corporations making dog foods rated much higher than companies making remedies (pharmaceuticals etc.) for people. If the standards used in Rating America's Corporate Conscience are consistent, these performance differences may indicate something about "corporate cultures" or perhaps about a disequilibrium consistent with Akerloff's general argument on "lemons".

A high E value has often been evident whenever wine deception has been discovered. Where a family name is at issue, the psychic cost has led to suicide, most recently with the Cruse marque and a self-imposed death penalty administered by jumping from a bridge in Bordeaux. We argue that this psychological cost is an important explanatory variable - but not that it is novel, since it plays a central role in Adam Smith's Theory of Moral Sentiments. In general, and when both psychological and financial costs are included, the condition governing cost factors is as follows: When the cost to be borne by a seller who is apprehended concealing malefit is low, deception is relatively more profitable (π_3 increases), and this is exacerbated whenever the psychic costs of embarrassment are also low.

Conclusion

As Aristophanes indicated, many of the evil events arise not so much from evil persons, but from more fundamental causes. An approach which examines the economics of concealment shows that the set of incentives facing sellers will sometimes lead to a decision to devote resources to hiding negative information (when $\pi_3 > \pi_2 > \pi_1$). Whenever this expenditure is successful, what the consumer sees will be different from what the consumer gets. It affects the way a market functions because the active use of resources to conceal information impedes the shift of purchases toward sellers with superior offerings, making the "lemons" outcome more frequent.

The recognition of this imperative to conceal has importance which is absolutely fundamental for welfare economics. It also has considerable significance for consumer policy because it means that instead of working on a long list of "evil events" piece by piece, we can be more productive by addressing the major variables affecting the incentive structure itself. This paper identifies some of the major variables as (i) the revenue to be gained from concealing information (ii) the technical productivity of the hiding effort (iii) the probability of being apprehended and (iv) different types of costs of being caught. Much research remains to be done on precise policies to address each of these variables. Alternative regulatory regimes need to be re-appraised and information policies need to be re-evaluated. We believe these projects will have a high payoff.

REFERENCES

Accum, Frederick, 1820. Edinburgh Review, "A Treatise on Adulteration," Article VII; a review of Accum's book published in 1820 by Longman and Co.; pp. 131-145.

Akerlof, G.A. 1970. "The Market for Lemons: Quality Uncertainty and the Market Mechanism," Quarterly Journal of Economics Vol. 84 (August) pp. 488-500.

Becker, Gary S., 1968. "Crime and Punishment: An Economic Approach," Journal of Political Economy 76; 2 (March/April), pp. 169-217.

Best and A. Andreason, 1976 Talking Back to Business, Voiced and Unvoiced Consumer Complaints Washington, D.C.: Center for the Study of Responsive Law.

Business Week, 1985. "A $25,000 fine for Eli Lilly" September 2; p.38.

Consumer Reports, 1971. Vol. 36, No. 9 (September); pp. 525-6.

Darby, Michael and E. Karni, 1973 "Free Competition and the Optimal Amount of Fraud", Journal of Law and Economics, 16 (1) April; pp. 67-88.

Fischer, D. W., and Robert R. Kerton, 1975. "Perception of Environmental Diseconomies: Technical vs. Economic Invisibility." Social Science Information 14(1); pp. 81-90.

Gilnitz, Jonah, 1971. "Pollution Warnings on Detergent Packages." New Orleans Times-Picayune as quoted in Consumer Reports 36, 9 (September); p. 526.

Jacob T. 1976. Food and Adulteration, New Delhi: Macmillan of India.

James, J., 1980. Product Choice and Poverty: A Study of the Inefficiency of Low-Income Consumption and the Distributional Impact of

Product Changes. W.E.P. 2-23/WP88; (working paper). Geneva: International Labour Organization.

Kerton, Robert R., 1980. "Consumer Search Capital: Delineating a Concept and Applying it to Developing Countries," Journal of Consumer Policy, 1980/4; pp. 293-305.

Lydenberg, S. D., A. T. Marlin, S. O. Strub and the Council on Economic Priorities 1986. Rating America's Corporate Conscience. Reading, Mass. Addison-Wesley.

Mandanna, J., 1982. "The Indian Experience," in International Organization of Consumer's Unions, Appropriate Products; edited by Robert R. Kerton, Lim Siang Jin and Ruth Vermeer. Consumercraft III: Penang, Malaysia: International Organization of Consumer's Unions.

Maynes, E. S., 1976. Decision-Making for Consumers, New York, Macmillan.

Mintz, Morton 1976. The Washington Post, No. 6 in a six part series on the use of prescription drugs in the United States; carried in the Kitchener Waterloo Record, July 17, 1976; p.32.

Montiel, C., 1977. "Malpractices faced by the metro Manilla low-income consumer," in Final Report of the KMPI Seminar - Workshop on Consumer Education, pp. 30-41. Quezon City, Philippines: Kilusan Ng Mga Mamimili Ng Philipinas Ink.

Nader, Ralph, 1965. Unsafe at Any Speed. See also the renewed charges that the company covered up tests done in 1960 as reported by Associated Press, July 12, 1971.

Nelson, Phillip, 1970. "Information and Consumer Behaviour," 78 Journal of Political Economy, p.311.

Sainsbury, Lord, 1967. Report of the Commission of Enquiry Into the Relationship of the Pharmaceutical Industry with the National Health Service; CMND 3410, London, HMSO.

Science, 1968. American Association for the Advancement of Science. "Dugway Accident Linked to Utah Sheep Kill," Vol. 162, No. 3861. (December 27); pp. 1460-1464.

Science News. 1981. News report. Volume 120. July 4; p.11.

Selby, F. G. (ed.), 1955. Bacon's Essays, London, Macmillan, p. 14.

Slayton, P. and M. Trebilcock, eds. 1978. The Professions and Public Policy. Toronto; University of Toronto Press.

Stigler, G. J., 1961. "The Economics of Information," Journal of Political Economy 69 (3): 213-25.

_____, 1970. "Optimum Enforcement of Laws," Journal of Political Economy; 78 (May/June) pp. 526-536.

Thorelli, H. and G. D. Sentell, 1982. Consumer Emancipation and Economic Development: The Case of Thailand, Greenwich CT: JAI Press.

United Nations Secretariat, 1984. Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted Or Not Approved By Governments. (First issue revised) DIESA/WP/1, July; pp. 273.

United States Congress, 1973. Public Law 92-573 92nd Congress S.3429; October 27. Consumer Product Safety Act; section 2(2).

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INFORMATION AND DISINFORMATION

John Thirlwell, Consumers' Association

These are three interesting and related papers, with mathematical or statistical analytical backgrounds.

Taking the papers in order, Friedman deals with car purchases. For most consumers, this is the second largest purchase. Only after house purchases. However since the life of the automobile is limited, it is a more frequent purchase and one that in many instances means second-hand.

So because of the magnitude and frequency of the purchases good consumer information is essential.

Consumer information is provided regularly by Testing Organisations such as Consumers Union in the US and my organisation Consumers' Association in the United Kingdom. Our magazine, Which?, usually considers related models from year to year and improvements or disasters are set out in the text of the report.

However, we would agree with the results adduced by Friedman. Faults tend to persist, arising from defect. In this respect I would commend that both designers and producers should study the newly published Standards ISO 9000-4 for a current view on production procedures. Similarly BS 5760 deals with Reliability and the forthcoming BS 7000 with Design. Many of the emergent problems set out by Friedman are possible to eliminate if the new procedures are used and they should be. But the main criticism of the paper is that the studies are limited to one organisation and it may be that these results are tests of the consistency of the work of Consumers Union rather than of the manufacturer.

Mary Carsky deals with the sale of meat. No doubt marketers are re gratified by these results based on a small sample. Sales did improve as a result of offering information. But did this mean that the total meat purchase by a shopper actually increased or only that the purchase was transferred from one shop to another. And did this mean that there was a reduction in other purchases.

The real criticism is of the predisposition of the shopper. Did the participants really just like meat so that they just had a prejudice confirmed or would they have reacted similarly to an information campaign on Fish or Vegetables? We do need to study this kind of sample much more deeply.

Finally to Kerton. We all suspected these results could be found! And even Bob Kerton took a little time before he actually set out this study.

Clearly the function of a marketing Department is to market a product. If it is a duff product, so be it. It is probably possible to give a bad dog a good name, especially if there is a good commercial profit in sight.

Promotional techniques can be and are used to develop political action, and often without regard to the merit of the product. Criticism of the private standards of Fundamentalist religious leaders illustrate this point contemporaeneously. There is a danger that commercial success may be mistaken for moral or practical success.

Kerton shows that deception may well pay.

It is clearly shown that there are three courses of action, and for the consumer the best is to eliminate the defect. If it is retained, at least tell the truth. Consumer movements are based upon the need to tell the truth, but in substance this paper shows that it may well be that deception may well be more profitable.

The obvious examples are the consumption of tobacco, which is known to be damaging to health, but is still promoted extensively and deceptively, and of course alcohol which can be regarded as poison, but which is sold and promoted with remarkably little restriction. These are dangerous products deliberately produced and marketed with little regard to the social and medical consequences.

I enjoyed this task, the papers discuss problems as a whole, as statistical approaches do, and may conceal much detail in their content. The authors should all continue with their works for these are areas where there is plenty to learn.

TRUTH IN SAVINGS -
ITS LEGISLATIVE HISTORY AND STATUS

Richard L.D. Morse, Kansas State University[1]

ABSTRACT

This paper traces the origins of Truth in Savings concepts, documents the legislative history of congressional and state bills and the role of regulatory agencies. Interlaced with the legislative developments is the recurrent controversy over what components are required for truthful disclosure.

INTRODUCTION

The roots for Truth in Savings can be traced to President Kennedy's Consumer Advisory Council. In 1963, it established as requisites for truthful disclosure of open-end credit the concepts of "periodic percentage rate" which is the simple rate paid each period, and its annualized counterpart the "nominal annual percentage rate."[1] It was in the course of the 1967 controversial congressional hearings over whether the annual percentage rate need be a required disclosure for open-end credit that the similarity of open-end credit to open-end savings accounts surfaced. The arithmetic is identical with merely the roles of banker and consumer reversed; the bankers acknowledged the consumers' need of the annual rate for savings, but not for open-end credit. The seeds for Truth in Savings were sowed in these debates. The interrelation of these two concepts is discussed in four previous papers: "A Decade of Truth in Lending"[5], "Model State Act: Consumers Savings Disclosure Act"[6], "Truth in Savings" [2] and "Universal Standard for Interest Rate Disclosures" [9].

Truth in Savings often conjures up defensive reactions from savings executives who deny they engage in false, deceptive or misleading practices requiring reform legislation. Many accept creative marketing and confusing obfuscations as legal, profitable and acceptable aspects of free enterprise. Their concerns about improving communications in the savings market are limited to how to increase consumer acceptance and understanding of the products and services they offer, falling far short of the broader intent of Truth in Savings. Because the value-laden expression "truth in ..." is subject to so many interpretations, it is essential that the criteria of Truth in Savings be established.

Standards for Evaluating Truth in Savings

The basic standards used in this paper to evaluate Truth in Savings fall into four catagories:

A. **That the facts be disclosed in standardized terms that are -**

- Complete - in that they "tell the whole truth and nothing but the truth."
- Reliable - are consistent from time to time, place to place, and application to application.
- Precise - are well defined, conform to established standards and are operational with minimum tolerance for error.
- Valid - are true to nature, that is, reflect faithfully the mathematics of growth and conform to what is generally referred to as the "time value of money."

B. **That the factual disclosures meet the following criteria for effective communication:**

- Understandable - the terms are readable and can be being understood.
- Economical - the terms are comprehendable with a minimum of educational effort expended, resulting in effective, low-cost transmission of factual information.
- Verifiable - the facts not only are repeatable, but sufficiently understandable that they can be applied to actual situations efficiently.
- Comparable - the language developed is universally applicable to other life situaons and is not unique to savings. For example, the concepts should be compatible with those needed to communicate facts about consumer credit, investments, economic series, population and other forms of growth.

C. **That the information be disclosed in a timely manner, conforming to the decision-making routines of consumer-users -**

- Before the contract is made, so consumers will have comparable information for efficient surveying the market.
- When the contract is agreed upon, so both parties know the terms and have a copy of the contract.

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[1] Professor of Family Economics

- During the life of the contract, so both parties have access to all the facts needed (1) to make interim decisions as market equations shift, and (2) to validate whether actions taken conform to contract terms. Furthermore, (3) adequate notice of any changes in contract terms should be given, so both parties are protected from unilateral changes. Finally, (4) there should be earnings report statements at least once a year, and (5) they should routinely reprint those contract terms needed for verification procedures; all reports should be "self-proving."

D. **That information systems be well disciplined**

- with adequate penalties from infractions.
- with incentives for savers to help financial institutions eliminate errors.
- with enforcement by government agencies specialized in protecting the market from false, deceptive and misleading practices.

All of these elements are required for a fully functional Truth in Savings program. They establish the direction toward which reform proposals should be advanced and by which they should be evaluated. To the extent that any element is missing, the consumers' interests will not be adequatly met.

These criteria have evolved from years of debates first over Truth in Lending and then over Truth in Savings, the history of which follows.

CONGRESSIONAL ACTION

Truth in Savings bills have been introduced in Congress since 1971, but neither the House nor Senate passed any bill until the 99th Congress. On October 7, 1986 the House passed H.R.5613, The Truth in Savings Act, but the Senate did not have time before adjournment to consider it. Nevertheless, this was the greatest advance to date. The legislative developments beginning with the 92nd Congress are reviewed.

The 92nd Congress

Truth in Savings was first introduced jointly in the Congress of the United States by Indiana Senator Vance Hartke as S.1848 and Kansas Representive Dr. Bill Roy as H.R. 8365. Their introduction of identical bills May 12, 1971 was no mere coincidence.

Mr. Howard Marlow, legislative aide to Senator Hartke, had read the article "Maybe We Need Truth in Savings" in the February, 1971 issue of Changing Times. He thought this might be of interest to Senator Hartke, so he called the Department of Family Economics at Kansas State University for further information because the article had featured the research of Ms. Jackie Pinson, a graduate student of Professor Morse. No legislation had been formulated, but he expressed willingness to assist in drafting a bill using the experience he had gained in drafting Truth in Lending legislation.

Dr. Bill Roy had just won election from the Congressional District in which Kansas State University is located. A key point in his successful campaign for election was criticism of the incumbent for his opposition to the recently enacted Truth in Lending Act. So it was expected that Dr. Roy would view Truth in Savings favorably. As Senator Hartke's office developed legislation, Dr. Roy was kept informed. They selected the same day to introduce the same legislation in the House and Senate.

Rationale for full disclosure. This and subsequent Hartke-Roy legislation track the open-end credit provisions of Truth in Lending. Savings and credit involve the same type of financial transaction, but with a role reversal: the role of the savings customers is to lend to the bank; the bank's role is to lend to the credit customer. Money flows between the lender to borrower whether it be for credit or savings. Also, just as in an open-credit situation, neither party knows when payments and credits will be made, so the disclosed terms are limited to the "working" rate, that is, the "periodic percentage rate" which is applied at the end of each period to the principal balance, with the method of computing that balance to be determined by the creditor and disclosed. Also disclosed with this "Periodic Percentage Rate" ("PPR") is the "Annual Percentage Rate" ("APR") which is the periodic rate multiplied by the number of periods in a year. The APR is a nominal (in name only) rate, and is a working rate only if interest is compounded annually.

These two terms met the disclosure requirements for consumer credit, but not fully for savings. The major financial difference between savings and credit is in the way interest is usually paid out. Typically, interest is paid as earned on credit, so the simple interest disclosures of PPR and APR are sufficient. In savings situations, interest usually accrues and is not paid out as earned. The periodic rate is applied to a sum which includes not only the beginning principal, but also the interest accrued to date. The growth in interest resulting from this compounding phenomenon requires another term called "yield", "Effective Annual Yield" or, as in Truth in Savings, "Annual Percentage Yield" (APY). APY expresses as a percentage the 365-day year's projected hypothetical growth of $100 from successive applications of the periodic rate to the combined principal and accrued interest.

Thus, Truth in Savings bills required disclosure of all three rates: the periodic percentage rate, the annual percentage rate, and the annual percentage yield.

They also required disclosure of the frequency of compounding, the method used to determine the balance to which the PPR is applied, the dates on which earnings are payable, any time limitations and charges, restrictions, terms or conditions affecting earnings and the disclosed PPR and APY. Such full disclosures were to be made in writing prior to opening a savings account, when the account was opened, and subsequently at least annually with earnings reports. Advertising disclosures were limited to the APR and APY in equal prominence together with any time or amount limitations. The term "profit" and rates based on periods in excess of one year or reflecting the effect of grace days were prohibited.

The bills were referred to their respective committees, but no hearings were held in the 92nd Congress, and the bills died.

The 93rd Congress

Senator Vance Hartke and Representive Dr. Bill Roy re-introduced Truth in Savings on February 28, 1973 as S. 1052 and H.R. 4985, respectively, with additional co-sponsors including Representative Leonor Sullivan who was very familiar with open credit. She had championed strengthening the open-end credit provisions of Truth in Lending in the final debate prior to House passage. The bills were referred to committees.

Hearings on S.1052 were held June 6-7, 1973 [15] and were significant in three respects: First, they provided a wealth of materials on savings which had heretofor been unavailable. Journals and special interest publications were essentially closed to consumer-oriented materials. For example, it documented the 56 exchanges beginning in 1966 that culminated with the 1969 amendments to Regulation Q governing advertising of savings. The full theses of Jackie M. Pinson and Russell W. Price were reprinted, as was correspondence regarding banking errors revealing the incredible ineptness of the FDIC and need for standard rate tables.[3]

The hearings served to expose for public scrutiny the positions of various government agencies and public interest groups. Positions of the various special interest groups were not surprising. But significant were the wide and irreconcilable differences over what constitutes full disclosure in the consumers' interest:

- The Federal Reserve Board favored the APR and PPR, but not the APY. The FRB even questioned the fairness of requiring the APY.
- The Federal Home Loan Bank Board favored the APR and APY, but not the PPR. In their opinion, the public would be better served by requiring the APY.
- Senator Proxmire and Allan Morrison of Public Citizen opposed requiring three rates, saying they would be confusing and counter productive.
- The National Credit Union Administration expressed no opinion about the rate requirments and requested exemption, while the bankers and thrifts considered legislation unnecessary since any problems that might exist could be handled by regulation.

Treasury and White House Support

On another front, the Nixon administration gave tangible support to Truth in Savings. It was promoting what is now known as deregulation. They embraced the logic that standards for truthful information was requisite for a deregulated market to function fairly.

William Simon, Deputy Secretary of the Treasury, and Virginia Knauer, Special Assistant to President Nixon for Consumer Affairs, called a meeting of consumer representatives to respond to legislation proposed to reorganize the structure and regulation of financial institutions, the "Financial Institution Act of 1973" S.2591. At the conference, Morse made a strong plea for Truth in Savings which would give the consumer needed information about their savings accounts regardless of how the financial institutions were restructured [12, p.20]. This proposal met with immediate endorsement by Secretary Simon and Virginia Knauer. Within a week a new Truth in Savings section was amended into S.2591 as Section 106. Mrs. Knauer's October 23, 1973 press release captures her enthusiasm for Truth in Savings: "...Too often the consumer receives savings rhetoric rather than savings information....The American people have a right to compare savings plans, and to know exactly what their savings will bring. We need clarification, not confusion at the teller's window."

One significant contribution of this initiative was that Truth in Savings became an issue which required study and thought by staffs of the Department of the Treasury, of the Senate Committee on Banking, Housing and Urban Affairs, and of Virginia Knauer's office. The result of their efforts was positive, yet the disclosure provisions of Section 106 fell short of S.1052. A comparative analysis of these bills is reprinted in The 1974 Hearings, [16, p.572-4]. The differences reflect fundamental disagreements as to what constitutes full and truthful disclosure.

Sec. 106 of S.2591 failed to require disclosure of the Periodic Percentage Rate and the Annual Percentage Yield . Other differences are outlined on pages 572-573 of the 1974 hearings. The objection to required disclosure of the Annual Percentage Yield is underscored in the letter of November 5, 1973, to Senator Hartke by the Secretary of the Treasury, George P. Shultz: "... We consider that requiring disclosure of the annual percentage yield could lead to misunderstanding to the saving public.... Disclosure of the periodic percentage rate could also lead to increased confusion .... We believe it is important to keep in step with Truth in Lending. The public is beginning to become familiar with the phrase 'Annual Percentage Rate'. It has been well accepted. To our knowledge, there have been no complaints about incomparability. We believe it could be unfortunate to complicate the situation with the introduction of a different type of annual rate, especially when its validity is so questionable."[p.464] The depth of conviction over the opposing positions is evidenced in the series of intense letters between the Secretary and Senator Hartke some of which are reprinted in the 1974 Hearings.

In summary, by the end of the 93rd Congress there remained a fundamental conflict as to what constituted full, meaningful and needed disclosures; Senator Proxmire rejected the need for three rates and pressed for a uniform method of disclosure, requesting a feasibility study by the Federal Reserve System.

The Federal Reserve Board found no need for a uniform method to compute interest rates, yet favored the development of "adequate" disclosure.

Treasury Secretary George Schultz rejected mandating the Annual Percentage Yield as having the potential for misleading the saver, and considered the Periodic Percentage Rate as having the potential for increasing consumer confusion. He favored the Annual Percentage Rate. The Federal Reserve Board also rejected the yield, but recognized the merit of the periodic percentage rate along with the annual percentage rate. The Federal Home Loan Bank Board favored the yield. And the credit unions wanted exemption. In summary, there was not agreement as to what should be disclosed.

94th Congress

Representive Leonor K. Sullivan, with Dr. Bill Roy as co-sponsor, introduced H.R. 14, the Consumer Disclosure Act, on the first day of the 94th Congress (January 14, 1975). It contained essentially the same provisions as earlier bills, but with a few "perfecting" changes.

Representive Sullivan chaired the Consumer Subcommittee of the House Banking and Currency Committee. Senator Hartke was not re-elected, so there was no bill in the Senate.

Representive Frank Annunzio replaced Mrs. Sullivan as Subcommittee Chair, and introduced his own ominbus banking bill H.R.6128 on April 17, 1975. The Truth in Savings provisions of this bill used traditionally imprecise language. No hearings were held.

The Financial Institutions Act of 1975 was reintroduced as S.1267. Its Section 107 contained essentially the same Truth in Savings provisions as the previous bill and did not require disclosure of the Periodic Percentage Rate or Annual Percentage Yield. The Senate Banking Committee struck Truth in Savings by deleting Section 107 from the bill. No other action was taken on Truth in Savings in the 94th Congress, nor until the 98th Congress.

96th Congress

Representative Benjamin S. Rosenthal, Chairman of the Commerce, Consumer and Monetary Affairs Subcommittee of the Committee on Government Operations held oversight hearings of the "Federal Supervision of Bank Advertising and Promotion Practices" September 11-12, 1979. The subcommittee, aware of the increasingly aggressive use of commercial advertising questioned "whether such practices too often mislead or confuse consumers." The 1092-pages provide a valuable source of documents, especially noteworthy are New York's Truth in Savings regulations, The Model State Act, reports and responses of the regulatory agencies and reprints of theses, studies and correspondences, submitted by the author.[13] Also significant is the letter from Federal Reserve Board Chairman Arthur F. Burns refuting the author's suggestion made on page 12 of the Morse Daily Rate Tables "to make 365 days synonymous with the word 'annual'." Burns wrote: "We believe ... requiring banks to compute interest on the basis of 365 days would eliminate an element of market competition that may be advantageous to consumers."(p. 1054)

98th Congress

Representive Richard Lehman (CA) introduced on March 1984, with 90 co-sponsors, The Truth in Savings Act. Hearings before the subcommittee on Financial Institutions of the Committee of Banking, Finance and Urban Affairs were held on August 8, 1984.[14]

Representative Lehman and undoubtly a large number of co-sponsors were responding to the concerns of their constituents who were confused by advertised savings rates and from marketing inovations that were difficult to comprehend and explain. Furthermore, the outrage over service charges, fees, check hold policies, minimum balances and interest calculation methods seemed to require reform legislation.

The Hearings elicited support for legislation and positive suggestions such as to define the word "annual." In his testimony before the committee, Morse recommended following the leadership of New York and to incorporate as Federal legislation the Truth in Savings regulations of the New York State Department of Banking. He proposed a further refinement to reduce to a single standard of daily interest payable on daily balances, which he called "Cents-ible Interest." He distributed copies of his recently published pamphlet of that title.[10]

99th Congress

Representative Lehman reintroduced a revised bill H.R. 2282 and was joined by over 100 co-sponsors. Hearings (as yet unpublished) held in June, 1986 resulted in a revised bill, H.R. 5613, which was introduced September 29, 1986 and passed by the House October 7, 1986. The Congress adjourned before the Senate could act on this bill.

100th Congress

Representative Lehman on January 7, 1987 reintroduced the previous bill. As of this writing, no hearings have been held, and there are no indications of Senate action. It should be noted that the Lehman bill fails seriously in meeting the criteria for an adequate Truth in Savings measure. Basic standards are not established; even "annual" is not defined. A new and undefined term, "Annual Rate of Simple Interest" (ARSI) is introduced burdening consumers with reconciling it with the familiar APR. The PPR rate actually paid is not mentioned.

Responsibility for defining the Annual Percentage Yield and the method by which it is to be calculated is relegated to the Federal Reserve Board which since at least 1971 has failed to recognize its obligation to fill this void. The bill does recognize problems arising out of creative schemes, bonuses, fees, tiered rates, yet fails to be specific as to how they should be treated under the act. At best, its passage will be a nominal political victory; at worst it will retard development of corrective action needed by consumers and the finance industry.

STATE LEGISLATION

Historically, consumer credit was regulated by the states while savings was regulated by the federal government. Truth in Lending broke this pattern by empowering the Federal Reserve Board with authority to promulgate regulations, Regulation Z, over consumer credit practices. The Board had exercised such power through Regulation Q over savings deposits in coordination with the other regulatory bodies, so there was no thought given to state legislation until the Maryland experience. The only thought had been to seek improvement at the Federal level either through strengthening regulations or by congressional legislation. A history of state action through 1979 is in an earlier paper which this paper supplements through early 1987.[6]

MARYLAND

The possibility of state Truth in Savings legislation developed as a result of the work of an investigative reporter, Mark Reutter of the Baltimore Sun. Other journalists had worked with Morse in surveying local savings institutions (Larry Werner for the Louisville Courier-Jorunal, and Craig Stock for the Wichita Eagle Beacon.)[13, pp.9312] But Reutter had developed an account activity pattern that showed the largest bank in Baltimore to pay zero interest on his model account. In writing the article, "The rules banks don't like to talk about" (November 9, 1975) he interviewed Senator Proxmire, the Comptroller of the Currency and other bank officials, and concluded that Maryland consumers need not wait for Congress to enact Truth in Savings. Maryland could enact its own law and the Sun published a stiring editorial on November 23. Inquiries from state legislators were referred to Morse who then realized the need for a Model State Truth in Savings Act.[7]

Maryland passed HB 807 which quieted the clamor for legislation, but provided a very limited Truth in Savings. It became effective 1977. (The 1986 session enacted a bank-supported Truth in Savings bill similar to the imprecise Lehman bill).

NEW YORK

The stimulant for the 1978 New York Act was the outrage of an administrative engineer who, in trying out his new Christmas gift calculator, discovered an error in the interest due him on his savings account. He was shocked to discover a yield of only 5.39% and not the advertised 5.47% on a 5.25% account. The bank had shifted from a 360 to a 365 day base without notifying its depositors. His union paper headlined this as a $442,000 rip-off of depositors. The result was immediate. Public officials and legislators were anxious to redress a wrong. Copies of Morse's Model State Act were supplied to legislators. But its specifity was rejected in favor of traditional terminology. Fortunately, the inadequatly worded act also charged the New York State Banking Department was charged with writing regulations to implement the act. The regulations are excellent and represent a significant breakthrough for Truth in Savings.

At that time, the State College at Buffalo, NY invited Morse to give a lecture on savings systems. He accepted on two conditions. One, that the students conduct a survey of local savings institutions, using the 13 questions in Check Your Interest [4] and (2) that a representative of the New York Banking Department also be invited to participate. The evening was successful. The students' testimony of their inability to get straight information from the bankers laid to rest the myth that information needed by consumers is available if they would only ask. The lecture session provided opportunity to establish the mathematical basis for interest calculations and the rationale for the three rates. The bank department's legal counsel seemed to understand, but was non-committal as to any regulations.

Soon thereafter the proposed regulations were circulated for public comment. This provided an opportunity to recommend drastic revisions, substituting the essential ingredients from the Model Act. They were accepted and incorporated in a revised set of regulations. They were ultimately approved with three changes: (1) the tight definition of APR needed to be removed because banks, such a Mr. Cheswick's, would have been required to quote an APR of 5.32% to yield 5.47% on a 365-day basis, yet federal regulations prohibited such banks from paying a rate higher than 5.25%. So New York substituted AIR (Annual Interest Rate), and bypassed the specific definition of APR. (2) Another change was to limit the advertising provisions for the electronic media. (3) A third change was to delete the requirement that depositors be contacted at least once a year. New York's Truth in Savings Act provides a landmark in providing depositors with savings contracts that are meaningful and useful in that they provide all three rates. There has been no weakening of these regulations.

Normative Disclosure. A significant departure from "full disclosure" is built into the Model Act and the New York regulations. The number of disclosures, other than the required PPR and APR, is reduced to only those which disadvantage the consumer. For example, frequency of compounding and method of computing balances need not be disclosed if other than daily.

MASSACHUSETTS

The Commonwealth of Massachusetts on January 8, 1985, incorporated Truth in Savings along with an amendment concerning finance charges for open-end credit. The Act assigned to the Commissioner of Banks responsibility to promulgate regulations. These were issued in February, approved in March and became effective July 1, 1985. The Commissioner chose not to stray from the language of the Act, as had the New York State Banking Department. As a result such terms as "annual rate of simple interest" and "effective yield" are used. Nevertheless, the suggested forms for disclosures statements are explicit. For example, they suggest 365 days as a full year. And under the section for disclosing the formula for calculating daily interest is the illustration: "For example, you will earn ____cents per $100 on deposit each day." This conforms to what Morse calls Cents-ible Interest®.

KANSAS

Since 1979 each session of the legislature has had a Truth in Savings bill. Until 1984, the bills conformed to the Model Act.

Cents per $100 per Day. In 1984 Senate Bill No. 549 was introduced. It departed from the Model Act's normative disclosure by accenting disclosure of the daily rate expressed in cents per $100 per Day for interest compounded daily on daily balances; otherwise, with the word "equivalent" appended. It also defined and required disclosure of the annualized terms, APR and APY. This bill was narrowly defeated in the Senate. It was reintroduced as SB 244 and HB 2380 in the 1985 session and committee hearings were held but no action was taken.

This was the first introduction into legislative format the concept of Cents per $100 per Day. This concept was first called "International Standard for Interest Rate Disclosure", when presented in 1982 at the International Organization of Consumers Unions Congress at The Hague.[8] It was presented at the 29th ACCI annual conference in 1983 with the name changed to "Universal Standard for Interest Rate Disclosure" (USIRD).[9] A significant inclusion of that paper are the evaluations of the heads of federal regulatory agencies, such as the FRB, SEC, FDIC and CoC, whose opinions had been solicited by Virginia Knauer of the White House. A third title given this concept is Cents-ible Interest® which is thought to capture the ideas expressed.[10] The name is registered to exercise quality control over its use. For example, some have miscontrued it to be the average of the quarterly or annual yield.

Centsible Interest®. The 1987 session of the Kansas legislature has under consideration H.B. 2331, "The Consumer Savings and Disclosure Act." It requires disclosure of only the daily rate if interest is compounded daily on daily balances, or its equivalent if other methods are used. Those methods, then, must be disclosed. The bill is essentially the same as HB 2380, but to simplify appearances, reference to annual terms is deleted. It is the expectation that the regulatory authorities subsequently will recognize the need for an APR and APY expression, and will define the APR to be 3.65 the daily percentage rate, and the APY to be the percentage expression of a 365-day yield. Enforcement is placed under the state's attorney general who administers a strong "Consumer Protection Act." It also provides for rewarding savers who discover and call errors to the attention of the financial institution.

SUMMARY

Truth in Savings has had active support from Republicans and Democrats, from so called liberals and conservatives.

In the 15 years that Truth in Savings has been before the Congress there appear three obstacles to adoption of truthful Truth in Savings at the Federal level:

1. Adherence to the traditional annual rate which is either nominal or hypothetical and not the rate paid.

2. Failure to specify the word "annual" thereby preserving ambiguity and rendering an annual rate quotation potentially deceptive and misleading.

3. Refusal to require disclosure of all of the terms essential for calculating interest, particularly the rate of interest used each compound period, namely, the periodic percentage rate.

4. Accept what is politically acceptable to special interest groups which do not accept the consumer criteria.

The bill (H.R. 5613) which passed by the House October 7, 1986, (Congressional Record, H.9305-9313) bears evidence of these obstacles. (1) It requires disclosure of "any annual percentage yield." No method for its calculation is stipulated; and responsibility is delegated to the Board of Governors of the Federal Reserve System. (2) It requires disclosure of "any annual rate of simple interest" which is not defined. Use of this terminology rather than the well defined Annual Percentage Rate suggests a difference which can be troubling to consumers. (3) The provision of an earlier bill that the year be 365 days is absent, so the word "annual" remains without definition. And, (4) there is absolutely no reference to the periodic percentage rate.

The feasibility of requiring full and meaningful rate disclosures has been successfully tested in New York. For the last six years the State of New York has required disclosure of all three rates, including the periodic percentage rate, and meaningful use of the word "annual." In the opinion of the New York State Banking Department which issued the regulations in 1979, the experience has been favorable, consumers have not expressed anxiety or confusion, and the financial institutions have complied with little or no objection.

Finally, a positive alternative approach toward resolving the problems inherent in disclosing three rates and defining the word "annual" is proposed by using the daily rate (since the day is universally acknowledged to be 24 hours) expressed in cents per $100 so as to avoid percentages and long decimals. This departure from traditional annual rates has brought speculation from critics ranging from predicting that consumers would be confused, to praise from Federal Reserve Board Chairman, Paul Volker, and Todd Conover, Comptroller of the Currency. Furthermore, research based on over 3000 tests with consumers has proven beyond doubt its functional usefullness for consumers. This unique approach is captured under the registered name of Cents-ible Interest®.

The future of truthful Truth in Savings will require surmounting the vestiges of traditional interest rate terminology conceived in the pre-computer days when daily compounding on daily balances was but a theoretical possibility. It also rests on the willingness to address positively the criteria set forth at the beginning of this paper. For example, to tighten up on the systems for calculating interest will require a major reorientation of regulators accustomed to drafting regulations that accomodate needless complexity and legalize imprecission. What might appear to be a simple beginning would be to make "annual" synonymous with 365 days, thereby accepting a recommendation that has been stubbornly rejected for more than a decade.

For a full discussion of the details of rate disclosure and the information gap, reference is made to a paper presented December 11, 1986 at the Consumer Federation of America sponsored conference "The Consumer in the Financial Revolution."[11]

REFERENCES

1. Consumer Advisory Council "First Report." pp.62-65. Executive Office of the President, G.P.O. Washington, D.C., 1963.

2. Morse, Richard L.D. and Fasse, William R. "Truth and Savings", *Journal of Consumer Affairs*, 7, (Winter, 1973).

3. Morse, Richard L. D.,*Morse Daily Rate Tables for Consumer Savings Accounts; Book I, Daily Compounding; Book II, Continuous Compounding; Book III, 360-Day Basis*, Kansas State Agricultural Experiment Station, Manhattan, KS 66506, 1977.

4. ____________. *Check Your Interest*., Morse Publications, Manhattan, KS 1978.

5. ____________."A Decade of Truth in Lending". *Proceedings*, 24th Annual Conference, American Council on Consumer Interests, pp 94-103, 1978.

6. ____________."A Model State Truth in Savings Act." *Proceedings*, 26th Annual Conference, American Council on Consumer Interests, pp. 158-161, 1980.

7. ____________. *A Model State Act: Consumer Savings Disclosure Act*, Morse Publications, 16 pp., 1980

8. ____________. "International Standard for Interest Rate Disclosure" for International Organization of Consumer Unions, The Hague, in "New Alternative for Banking and Savings", *Proceedings*, Family Economics-Home Management Workshop sponsored by the American Home Economics Association, pp.73-91, 1982.

9. ____________. "Univerisal Standard for Interest Rate Disclosures." *Proceedings*, 29th Annual Conference, American Council on Consumer Interests, pp. 51-7, 1983.

10. ____________. *Cents-ible Interest®*, Family Economics Trust, Manhattan, KS,1984 34pp.

11. ____________. "Savings Information Needs of Consumers in a Changing Marketplace," Family Economics Trust, Manhattan, KS, 34 pp. 1986.

12. U.S. Department of the Treasury. "Consumer Questions on Banking, Savings and Loan Associations and Other Institutions", Transcript of a Seminar on Financial Reform. 1973

13. U.S. House, Hearings on Federal Supervision of Bank Advertising and Promotion Practices,before a Subcommittee on Government Operations, September 11-12, 1979. 1092 pp.

14. U.S. House, Hearings on H.R. 5232, The Truth in Savins Act, before the Committee on Banking, Finance and Urban Affairs, 98th Cong., 2nd sess. on August 8, 1984. 180 pp.

15. U.S. Senate, Hearing on S.356 and S.1052 (Truth in Savings Act) before the Subcommittee on Consumer Credit of the Committee on Banking, Housing and Urban Affairs, 93rd Cong. 1st sess, June 6-7, 1973. 513 pp.

16. U.S. Senate, Hearings on S. 2591, The Financial Institutions Act of 1973 before the Subcommittee on Financial Institutions of the Committee on Banking, Housing and Urban Affairs, 93rd Cong. 2nd sess, September 11, 12 & 25, 1974. 758 pp.

THE TAX REFORM ACT OF 1986:
IMPLICATIONS FOR CONSUMER PROFESSIONALS

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ABSTRACT

With lower rates and a broader tax base, the Tax Reform Act of 1986 was designed to be simpler and fairer. Passage signals a fundamental change in fiscal policy. The impact on the economy will be difficult to quantify due to off-setting factors. The new tax code provides challenges and opportunities for educators, researchers and public policy makers.

The Tax Reform Act of 1986 (the Act) has brought about the most comprehensive changes in the American tax system in 30 years. "By fundamentally changing the rules by which Americans spend, save, borrow and invest, it will affect the course of the entire economy" [12, p. 46]. In theory, spending, saving and investing decisions will be ruled more by financial goals than by tax avoidance strategies [11, 14]. Combining lower rates for both individuals and corporations with a broader tax base, while eliminating or restricting many popular tax deductions and shelters, tax reform passed Congress by a wide margin. The first changes become effective in 1987; some provisions such as the higher standard deduction and personal exemption along with the elimination of the consumer interest deduction will be phased in over the next five years.

The initial objective for the overhaul of the tax code was to make the income tax system simpler and fairer. Whether these goals were achieved is open to debate. As with beauty, the fairness of tax reform is in the eye of the beholder. The following discussion will illustrate the complexity of the new law and potential impacts of some of the changes.

Notable among the changes is the reduction in the top marginal tax rate from 50% to 38.5% in 1987 and 33% by 1988; as recently as 1981 the maximum individual tax rate was 70%. Other significant changes are a reduction in the number of brackets from the current 15 to five in 1987 and three in 1988 along with the elimination of many long standing and popular deductions [1]. While previous Reagan Administration tax laws provided tax relief, this Act was designed with reform in mind. The changes were designed to reduce the incentive for tax avoidance strategies and to minimize the role of tax considerations in financial decisions.

At least in theory, the tax bill is supposed to be "revenue neutral" with lower rates offset by a broader tax base due to fewer deductions and shelters along with an increase in business taxes [1]. Analysts predict an average tax cut of 1.6% in 1987 and 6.1% in 1988 but the amount will vary considerably with individual circumstances [2]. About half of taxpayers earning $50,000 or more will pay higher taxes [7]. In order to recoup a portion of the revenues lost through lower tax rates, the Act transfers some of the tax burden from individuals to corporations. Businesses are scheduled to face a $120 billion increase over the next 6 years to pay for the cuts in individual taxes.

The purpose of this paper is to review the major changes in the tax code as they affect consumers. It will examine the public policy implications of these changes and recommend opportunities for educators, financial advisors and researchers.

RECENT CHANGES IN THE TAX CODE

Although the Act was welcomed as historic, far reaching, and unprecedented, both recent changes in the tax code and the history of the federal income tax indicate it will likely be just another complicated chapter in a long line of change. A review of the 73 year history of federal income taxes reveals that Congress has imposed major tax change on the American public on the average of every 18 months since its inception in 1917 [17]. Previous Reagan administration tax bills included the Economic Recovery Tax Act of 1981, followed by the Tax Equity and Fiscal Responsibility Act of 1982, and the Tax Reform Act of 1984. Each of these changes was heralded as a major improvement in the tax code. Thus, we can expect that the Tax Reform Act of 1986 will not remain untouched. Granted, the 1986 law went a step further than most recent tax law changes; the 1986 Act replaces the 1954 Internal Revenue Code.

MAJOR PROVISIONS OF THE TAX REFORM ACT OF 1986

The most significant changes affecting individual taxpayers are the lower brackets, broader taxable income and higher personal exemptions and standard deduction.

TABLE. TAX RATE TABLES

1987			
Married couple filing jointly		Single Taxpayers	
Taxable income	Rate	Taxable Income	Rate
$ 0-$ 3,000	0%	$ 0-$ 1,800	11%
$ 3,001-$28,000	11%	$ 1,801-$16,800	15%
$28,001-$45,000	28%	$16,801-$27,000	28%
$45,001-$90,000	35%	$27,001-$54,000	35%
above $90,000	38.5%	above $54,000	38.5%

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	1988		
$ 0-$29,750	15%	$ 0-$17,850	15%
$ 29,751-$71,900	28%	$17,851-$43,150	28%
$71,901-$170,000	33%	$43,151-	33%
above $170,000	28%	$	28%

Due to the substantial jump in marginal tax rates between the brackets (i.e., from 15% to 28%), taxpayers near the top end of a bracket need to plan more carefully than in past years when an increase in taxable income meant a 2-3% increase in the marginal rate. The personal exemption will be increased to $2000 by 1989 while the standard deduction will be $3000 for a single taxpayer and $5000 for a joint return. For 1987 and beyond, the elderly and blind lose the extra personal exemption but qualify for a larger standard deduction.

In combination, the increase in the personal exemption and standard deduction effectively dropped about six million low income Americans from the tax rolls. As a result, the Act has been lauded as "the most important anti-poverty legislation in more than a decade" [17, p. 1]. A four member family can earn up to $11,360 in 1987 and $12,800 in 1988 before incurring a federal tax liability, compared to $7990 in 1986. The poverty level for a four member family is $12,368.

For many taxpayers, adjusted gross income (AGI) will increase due to fewer adjustments and exclusions and the treatment of capital gains as ordinary income. For some, this will be offset by lower rates and higher personal exemptions and standard deduction. The increase in the standard deduction will make itemizing less attractive. While 40% of taxpayers currently itemize, an estimated one-third of them will no longer do so under the new rules. The most significant changes for itemizers affect consumer credit and IRAs. In addition, itemizers will be affected by the elimination of the sales tax deduction, the increase in the medical deduction ceiling and the limit on miscellaneous deductions. Employee business expenses will be shifted from an adjustment to income to an itemized deduction in the same category as miscellaneous deductions. In addition, only 80% of business meals and entertainment expenses will be deductible. Deductions in this combined category will be deductible only to the extent that the total exceeds 2% of adjusted gross income (AGI). Fewer taxpayers will benefit from charitable contribution deductions since itemizing will be required once more. At the same time, the reduction in tax rates diminishes the value of deductions and thus increases the real cost of contributions.

The consumer interest deduction will be phased out so that the following percentages of interest will be deductible: 65% in 1987, 40% in 1988, 20% in 1989, 10% in 1990; the deduction will be eliminated in 1991. However, a major loophole in the elimination of deductions for consumer interest is allowing deductions for interest on home equity loans.

Decisions about Individual Retirement Accounts (IRAs) will be more complex due to the new rules on determining eligibility for deductions. Workers who are eligible to participate in a company pension or profit sharing plan may lose part or all of the deduction for an IRA contribution depending on their adjusted gross income. Singles with adjusted gross incomes (before subtracting IRA contributions) of $25,000-$35,000 and couples filing jointly with AGIs of $40,000-$50,000 who are eligible to participate in a company retirement plan will forfeit $1 of their deduction for each $5 of taxable income that falls in this range [16]. Couples who file jointly will be subject to these limits even if only one is covered by an employer plan. According to the Investment Company Institute, about 5.4 million (19%) of the 28 million households that have IRAs will lose the deduction entirely [26].

The so-called "kiddie tax" is imposed on unearned income of children under age 14 to discourage income shifting by high bracket parents to young children. For children under 14, all unearned income in excess of $1000 will be taxed at the marginal rate of the parents [5]. Further, only one personal exemption is allowed per child; either parents or child may claim the exemption, not both as in the past. In order to limit deductions for passive losses (tax shelters), income will be classified in one of three categories depending on its source: active income from wage earning activities, portfolio income from interest and dividends, and passive income from investments in which the investor does not materially participate [5].

Students will feel the impact of the phase out of the interest deduction on educational loans and the taxation of certain scholarships. While awards for tuition, fees and books will remain tax exempt, taxation of grants that cover living expenses will be subject to tax. However, many students will escape taxation due to the increased personal exemption and standard deduction.

THE TOTAL TAX PICTURE

A fundamental question overlooked by most analyses of tax reform is developments in state income taxes and Social Security. While many taxpayers may be anticipating a reduction in their federal income taxes, regressive Social Security (FICA) taxes will continue their upward trend as both the tax rate and wage base are increased. In 1987 the current tax rate of 14.3% (7.15% for employees and employers) is applied to a wage base of $43,800, resulting in a maximum tax of $3131.70. FICA taxes may exceed the income tax liability of many taxpayers.

Two income couples will be affected by the loss of the two earner deduction, the restrictions on IRA contributions if their combined AGI exceeds $40,000 (and one or both are eligible for an employer pension plan) while both incomes are subject to Social Security taxes. For example, a two earner couple earning $30,000 a piece would pay $2145 each or $4290, while a one earner couple with a $60,000 income would owe only

$3132.70. The two earner couple pays $1158 more in FICA taxes on the same family income.

State income taxes will likely increase for taxpayers in 33 states and the District of Columbia because these states apply their own rates to federal adjusted gross income [29]. Elimination of the capital gain exclusion and the two earner deduction along with the loss of the IRA deduction for many taxpayers and the shift of employee business expenses to Schedule A (itemized deductions) may result in a substantial increase in the federal adjusted gross income. With states applying their rates directly to federal AGI, many taxpayers could face state tax increases of up to 28% [29]. States experiencing revenue shortfalls may be tempted to collect this windfall [4]. For example, despite an expected $50 million windfall due to federal tax reform, Utah legislators imposed a 4% surtax on 1986 income taxes and increased income and sales taxes by $151 million for 1987 [20]. The governor claimed the state tax increase merely offset the reduction in federal income taxes and thus was simply a transfer of tax liability from the federal to the state level.

IMPLICATIONS

In addition to being labeled the most significant anti-poverty legislation in a decade, the Act signals a fundamental change in government policies by:

1) retreating from using fiscal policy to achieve economic and social goals,

2) changing the framework for financial decisions away from tax concerns and back to basic economic considerations, and

3) reducing the progressive nature of our tax system.

Because of the myriad changes, gradual phase in periods, and the combination of lower rates with a broader tax base, the effects on the economy are difficult to predict. Lauded by proponents as the way to get the country back on course, opposing lawmakers predicted it would adversely affect the economy. Conflicting predictions proliferated as the editors of Changing Times [7] forecast slower economic growth offset by higher consumer spending and others predicted a boom [6, 28] or a recession [14]. In the long run the financial markets will adjust...until the next tax reform bill.

> Underpinning the legislation --which drops individual tax rates to the lowest levels since Calvin Coolidge was President 60 years ago while sharply reducing the number of breaks--is a major philosophical shift away from using federal taxes to encourage certain types of economic activity toward a more laissez-faire approach to economic life. [12, p. 46].

In theory, a more efficient allocation of investments should result from the lower effective marginal tax brackets and elimination of many tax preferences. A misallocation of resources results when tax avoidance outweighs productive investment decisions. Interest rates and inflation should decline when tax rates are reduced and economic assets are allocated more efficiently [13]. Although it is difficult to separate out and quantify the impacts of the Act due to some conflicting changes (lower rates and higher taxable income) and external events [15] the Act will be simultaneously blamed and praised for the results. For example, both the slow down in real estate and the stock market boom have been attributed to the Act [6, 8].

With the elimination of many deductions and credits, Congress has retreated from using the tax code as an instrument for social and economic reform [18]. Most notable but rarely discussed is the reduction in the progressive nature of our tax system, one of the fundamental principles underlying the federal tax system [18]. This results from the decrease in the number of tax brackets from 15 (14 for singles) to three in 1988. One counter argument is that the old law was only progressive in the middle ranges as wealthy taxpayers employed sophisticated accounting techniques and tax shelters to reduce their tax liabilities. However, progressive tax brackets could have been maintained while eliminating deductions and abusive tax shelters.

Taylor [24] argues that the changes inhibit the ability of the tax system to encourage certain economic activities. The low marginal rates and the restrictions in the economic incentives to contribute to charity, invest in capital assets, and save for retirement, weaken the ability of the federal tax system to carry out certain government policies. Taylor maintains that it is cheaper and more effective for the government to encourage desirable activities such as capital investment and retirement savings through tax incentives rather than through government programs. Taylor further argues that the government should expand rather than reduce the incentives for individuals to provide for their economic security by allowing a tax deduction or credit for private accounts to substitute for or supplement Medicare coverage in an effort to reduce the size of federal expenditures. Many tax subsidies benefit middle and upper income taxpayers while providing little or no benefit to low income individuals.

Although tax deductions for IRAs subsidize moderate to high income taxpayers, is it good policy to limit this incentive for saving for retirement? With an aging population that will strain the Social Security system after the year 2000, would it not be more appropriate to encourage more saving for retirement? Is it more fair that only home owners, already a privileged group of taxpayers, will be the only ones entitled to deduct consumer interest, as long as the loans are linked to their home equity?

While the new law maintains the largest tax shelter for middle income Americans--home ownership--critics forecast a serious reduction in real estate values as the rate reduction diminishes the benefit of the mortgage interest and property tax deduction for high bracket taxpayers. However, evidence from real estate activity in early 1987 indicates that the industry is gradually adapting to the changes [8]. Because real estate markets are localized and affected by a wide variety of influences, it would be difficult to partition out the effect of the Act. Similar arguments were heard from virtually all industries and special interests affected by the bill.

For example, now that some industrial purpose municipal bonds will be taxable, investors seeking to avoid taxes can shift to municipal bonds which remain tax exempt [11]. Elimination of the capital gains preference will undoubtedly cause some shifting of assets, yet Gregory [14] argues that the basic principles of asset allocation will remain intact since tax considerations are only part of overall investment portfolio decisions. Other variables (goals, risk, time, liquidity, economic environment, etc.) often outweigh tax considerations.

Because of difficulties in predicting total taxable income at the beginning of the year, many taxpayers will have to decide on the amount of their IRA contribution without full knowledge of the tax consequences. Withdrawals will be more complicated for workers with deductible and non-deductible IRA accounts, since the law requires proportionate withdrawals from taxable and tax deferred accounts. IRA administrative fees may increase as a result. Determining whether to fund an IRA if contributions are no longer deductible, even though earnings continue to compound tax-deferred, will require an astute analysis of alternative investment options such as 401(k) and 403(b) tax deferred savings plans, municipal bonds and single premium life insurance products [19].

The proposition that the borrowing habits of Americans are about to change [22] is not substantiated by an analysis of the consumer credit use. For the 60% of taxpayers who do not itemize deductions the change will make no difference as they do not benefit from this tax loophole. Since 60% of taxpayers do not currently itemize and fewer will in the future and many consumers base their borrowing decision on the size of the monthly payment rather than carefully analyzing the costs and benefits of credit, a substantial decrease in consumer borrowing is unlikely. Given recent interest rate trends, the demographic distribution of the population, and past borrowing behavior, a large reduction in credit use is not likely.

Lenders are vigorously promoting home equity loans as a tax reduction strategy. The perils of using a home equity loan as a continuing source of consumer credit are documented by Consumers Union [9]. A major risk is the lack of a ceiling on the interest rate which is tied to the prime rate. A potential long term detrimental result of increased use of home equity loans may be less flexibility during recessions (possible job loss) and lower equity at the time of retirement which would have negative consequences for financial security.

Gradual adaptation is likely to be the scenario in all the areas affected by the bill. With months of anticipation preceding passage to evaluate the impact and plan actions, the market appears to be adjusting to the many changes [14, 28]

RECOMMENDATIONS FOR CONSUMER PROFESSIONALS

This section suggest some challenges and opportunities for educators and researchers. Since these areas overlap they will be discussed simultaneously. While public policy considerations are related to education and research, some explicit concerns are discussed at the end of this section.

Tax reform without simplification has resulted in more complex record keeping requirements, a five year phase in period to complicate planning, complex IRA rules, and three types of income--active, passive and investment. Taxpayers may perceive a greater need for assistance in tax planning and preparation. Thus, educators face a challenge in communicating the major changes in an understandable manner. Some recommendations for educators include suggestions for the classroom situation and for informing the general public.

Due to the regularity with which Congress has dished out tax "reform" during the 1980s, textbooks are outdated before they come off the press. Because some of the provisions of the Act will change every year through 1991 (and history indicates there are bound to be additional changes between now and then) yearly updates are needed. While a wide variety of sources provide information on the Act, some of the most helpful and accessible sources are articles and work sheets from consumer and news magazines. Encouraging students to read Changing Times, Money, and Consumer Reports, as well as U.S. News and World Report, and similar business publications will provide a continuing education that one term in a personal finance class can only initiate. A useful tool for estimating 1987 and 1988 tax liability are the work sheets provided in many current articles [7, 10, 27]. This estimate is necessary to complete the new W-4 forms for tax withholding as well as general planning. By using these sources in the classroom, educators can introduce students to sources of life long learning.

An important role for educators is to organize information to help taxpayers estimate and plan for their total tax liability. As the example of Utah illustrates, taxpayers need to estimate their state and local (including property) tax liability as well as federal income and Social Security taxes before spending their tax cut. Information on figuring both federal and state tax liabilities is a service not readily available except from a tax professional. Through classes and the media, educators can help sift through the complexities to provide guidance. What resources are available in your community to help low and moderate income taxpayers understand the basics of the Act?

Record keeping will become more important than ever. While not essential, the use of a personal computer can facilitate this task as well as the actual preparation of the tax return. A good tax program can reduce much of the frustration of number crunching and speed up the process of working through case studies to illustrate the changes in the law.

Assisting consumers in evaluating the potential pitfalls and advantages of home equity loans will be a major task for educators. The lack of an interest rate cap is one of the greatest risks. Memories of the prime rate in excess of 20% fade quickly. This situation is analogous to adjustable rate mortgages which were first introduced without rate caps but now provide this protection. This concern raises the question of when education alone is not sufficient to protect consumers. Individual consumer requests for an interest rate cap on their home equity loan is not going to accomplish the goal. Educators need to be public policy advocates; if lenders do not respond to pressure to include caps, introduction of federal legislation imposing an interest rate cap might encourage a voluntary measure by the financial services industry. Obviously, such protection reduces the number of defaults and benefits lenders as well as borrowers. Consumer professionals should lobby for interest rate caps for home equity loans.

For researchers, the home equity loan promotions suggest the opportunity for a longitudinal study of the consequences of these loans on family financial well-being. The use of a home equity line of credit over an extended time period could affect flexibility and the ability to deal with recession and unemployment. Because home ownership is one of the anchors of financial security in retirement, the impact of home equity loans should be studied.

Consumer credit decisions will be more complex so educators can help consumers examine the impact of the gradual elimination of the consumer interest deduction and the advantages of different methods for achieving goals. In a period of high real (inflation adjusted) interest rates and changing fiscal policy, savings may be a more attractive option. Research can help determine the economic impact of the elimination of the interest deduction.

Financial educators will recognize that restrictions on Individual Retirement Account (IRA) deductions are confusing to consumers [23]. Already the media has focused on the IRA restrictions to the point that many people may not realize they are still eligible for at least a partial deduction for their contributions. The new eligibility guidelines may be confusing for some taxpayers, particularly two earner couples, whose income fluctuates appreciably from year to year. The two pronged nature of the IRA tax break further complicates the decision. Because of the advertising emphasis on the immediate tax deduction, many consumers may not realize that they can still benefit from the tax deferral on growth of assets held in an IRA. The growth in the account--interest, dividends, capital gains--will continue to accumulate tax deferred. The question should not be whether or not to save for retirement through an IRA but which of the various tax deferred methods is best for the individual. Alternative salary deferral plans such as employee savings plans, 401(k) and 403(b) salary reduction plans and Keogh plans should be explored as part of the IRA decision process. Educators can assist consumers in making a wise decision by reviewing all the common alternatives. A computer program would be an ideal way to explore these options.

As the financial services industry adjusts to the tax changes that affect investments (particularly the elimination of the capital gains exclusion) and a move away from non-deductible IRA accounts, single premium insurance products (life insurance and deferred annuities) are being promoted as one of the few remaining tax shelters as well as a replacement for a non-deductible IRA. One of the challenges to educators is to inform the public on how to evaluate these heavily promoted financial products that often carry substantial commissions, yearly fees and early withdrawal penalties. Belth [3] provides guidance in assessing these single premium life insurance products. Frequently, advertising is a major clue to consumer education needs; simply examine the volume of advertisements for home equity loans and single premium life insurance products.

Educators and counselors should be aware of the implications of the new law for divorcing persons. Although the new law does not specifically address divorce settlements, the "lower marginal tax rates, less favorable treatment for tax shelters and capital gains, and increased exemptions for dependents mean that some assets and tax deductions that traditionally went to one spouse will now be valued differently" [21].

The next few years will be a time of adjustment for individuals as well as the economy. The Act has brought us a "mind-boggling turmoil of policy crosscurrents" [17, p. 10]. Perhaps the most positive response to this assessment of the Act is to acknowledge that it provides opportunities for research which can be used to influence public policy.

Due to the many off-setting factors, the effects of the law are difficult to predict, especially in the transition years of 1987 and 1988. Be wary of claims of major dislocations in the economy. Although initially the changes will be disruptive, taxes are only one factor in economic decisions. The wide impact and the many provisions with conflicting or balancing impacts suggest the lack of clear cut effects, with one exception. The repeated changes inflicted upon American taxpayers during the 1980s primarily have benefited tax professionals. The changes will encourage more taxpayers to seek professional tax advice. Repeated change produces stress, frustration and confusion, not a way to induce better compliance with the law. For example, consider the case of a family that invested heavily in a 401(k) salary reduction plan in order to finance college for their children [25]. Prior to the Act this money could be withdrawn without penalty to purchase a house or pay for education. Now, all the money previously invested is subject to a 10% early withdrawal penalty. Situations such as this complicate long range planning and may foster an attitude of "Why bother planning? The laws will change as soon as I implement my plan." While educators may consider it a challenge to keep up with the changes, is investing hours of time to understand the new law and overhauling class notes the best use of an educator's and researcher's time?

Senator Lloyd Bentsen, incoming chair of the Senate Finance Committee, has called for the restoration of the sales tax deduction and reinstatement of the full IRA deduction. Despite the potential value of these changes, it is time to send a message to Congress to quit tinkering with the tax code. While there are sections--particularly those relating to IRAs--that should be returned to the pre-Act rules, let it be. Let the economy adapt, allow business and consumers to implement long term planning strategies, don't change the rules of the game in mid-stream. Let the country invest its energies in productive activities under these new rules.

SUMMARY AND CONCLUSIONS

The transition to the new tax code will be confusing to consumers. Just as they got accustomed to inflation and learned to adapt their credit, saving and investing strategies, stable consumer prices became the norm. Taxpayers will likely experience difficulty in making the transition to financial decisions under tax reform. Used to tax subsidies for credit, focusing too much on the tax implications of investments rather than fundamental value, and enjoying a substantial reduction in home ownership costs, moderate to high income taxpayers will need to reassess many of their financial decisions. Old habits and ways of thinking are hard to break. Perhaps we should not try too hard since history indicates that the tax laws are likely to be changed again before we become accustomed to the current law. All these changes mean there will be a greater demand for financial advising services for moderate income individuals.

The biggest unknown is how the new tax code will affect the economy through decisions on investments, consumer credit and home ownership. Preliminary evidence [8, 14] indicates that the markets will adapt. Consumer professionals are challenged to help consumers understand, adapt and plan for financial security under the new rules.

REFERENCES

1. Anrig, Greg, Jr. "How to Save $1000 on Your Taxes." Money, October, 1986. pp. 48-56.

2. _____. "Some Disappointing Facts About the New Tax Law." Money, November, 1986. pp. 195-200.

3. Belth, Joseph. "Observations on Single-Premium Life Insurance." Insurance Forum, February, 1987.

4. Berton, Lee. "State and Local Taxes Would Rise For Many People Under Senate Bill." The Wall Street Journal, May 29, 1986. p. 31.

5. Brody, Lawrence. "Trusts, Estates and the Kiddie Tax: Income Accumulation Discouraged." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 65-71.

6. Carlson, John E. "Tax Reform to Magnify Bull Market." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 119-122.

7. Changing Times. "The Big Tax Remake: How to make it Work for You." October, 1986. pp. 62-79.

8. Cohen, Laurie P. "Real Estate Industry Adapts Gradually to Tax Overhaul." The Wall Street Journal, February 18, 1987. p. 6.

9. Consumer Reports. "Should You Hock Your Home?" November, 1986. pp. 739-743.

10. ____ . "Your Taxes: Up or Down?" March, 1986. pp.164-171.

11. Dillahunty, Jim. "TRA '86 and Market Conditions Change Bond Investments." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 101-111.

12. Egan, Jack; Karmin, Monroe W. and Hildreth, James M. "Changing Course." U.S. News and World Report, October 6, 1986. pp. 46-47.

13. Genetski, Robert J. "Tax Overhaul Can Make Difference Where It counts." The Wall Street Journal, June 5, 1986. p. 26.

14. Gregory, Ken. "Asset Allocation Impact Will Be Minimal." Journal of the Institute of Certified Financial Planners, Special Edition 1986. pp. 113-118.

15. Luther, Jim. "Tax-Package Scoreboard Has Winners and Losers." The Salt Lake Tribune, September 28, 1986. p. A3.

16. Morrow, Edwin P. "Revised Retirement Vehicles and Life Insurance Require Alert Planning." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 45-59.

17. Murray, Alan. "Historic Act: Unparalleled Tax Bill Will Affect Everyone, Raise Corporate Levies." The Wall Street Journal, August 8, 1986. pp. 1, 10.

18. Musgrave, Richard. "Whatever Happened to Progressivity?" The Wall Street Journal, May 29, 1986. p. 28.

19. Nahoum, Alan T. and Stephen J. Krass. "TRA 1986: Its Impact on Qualified Retirement Plans." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 25-44.

20. Parker, Douglas L. "Governor: Tax Hikes Bring Balance." The Salt Lake Tribune, February 27, 1987. p. A1.

21. Peers, Alexandria. "Structure of Divorce Settlements Seen Changing With New Tax Law." The Wall Street Journal, October 30, 1987. p. 35.

22. Russell, James. "No Tax Deduction for Consumer Credit Will Curb Americans' Appetite for Debt." The Salt Lake Tribune, August 29, 1986. p. 7.

23. Sing, Bill. "Consumer Confusion Hampers IRA Sales." Denver Post, April 5, 1987. p. 8G.

24. Taylor, Robert C. "Low Marginal Rates Could Backfire." The Wall Street Journal, June 10, 1986. p. 32.

25. Topolnicki, Denise M. "The New Taxes: Your Benefits May Never Be the Same." Money, March, 1987. pp. 87-100.

26. Updegrave, Walter L. "The IRA Lives! New Moves for a New Era." Money, March, 1987. pp. 58-64.

27. U. S. News and World Report, "Figuring What to Pay Uncle Sam." March 2, 1986. pp. 60-61.

28. Walker, Lewis J. "Tax Reform: A New Tune and Seeds of a Boom." Journal of the Institute of Certified Financial Planners, Special Edition 1987. pp. 7-14.

29. Wheelwright, Holly. "The Nasty Surprises in State Taxes." Money, February, 1987. pp. 131-132.

INCORPORATING CREDIT IN DEMAND ANALYSIS

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ABSTRACT

This paper discusses the implications of credit use for models of consumer demand. It proposes a functional form for, and presents results from, a demand model designed to incorporate the effects of credit use.

The analysis of consumer demand has evolved along two related but distinct lines of thought. Theorists typically begin with the twin assumptions that individuals choose the consumption bundle that maximizes utility subject to a budget constraint, and that data is available to test the validity of their results. Attention is focused on restrictions such as Slusky symmetry and homogeneity which are either implicitly or explicitly imposed. For theoretical economists the imposition of these restrictions is what differentiates a model of consumer demand from a mere description of the correlation between the exogenous and endogenous variables [16, p. 55).

The second school of thought is comprised of those who must gather the relevant data and use it to make predictions and policy analysis. They quickly learn that the data is lacking in both the number of observations and in the definitions employed by the data collection agency. To this group the imposition of restrictions tends to be a little unsettling, as they are more often than not rejected by the data. Restrictions tend to be imposed only when they result in parameters that conform to those predicted by the theory, even when they cause a sign reversal in the estimated parameters. The conformation of estimated results to those predicted by the theory is regarded more as a test of the model rather than a test of the theory. The theme of this paper is that in a situation where the data is weak, it is more logical to build models which take into account the data limitations than to build theoretical models which can never be tested. The example used is the estimation of the impact of credit use on consumer expenditure patterns. There is a fundamental problem with publicly available statistics as they relate to this area. Governments and corporations define expenditures by the date at which the consumer agrees to purchase, rather than the date at which the consumer must find the required funds. If one sums the monthly US per capita expenditures on durables, nondurables, services, and savings, one arrives at the figure reported for per capita disposable income. Yet, Americans spend almost 18% of their disposable income repaying loans, an item that does not appear as an expenditure item [15]. If one purchases a new house, the entire value of the transaction is recorded as a once-off increase in housing expenditures. To the individual who has made the purchase, however, it represents an agreement to consign future expected income to a budgetary item called mortgage repayments.

The government does periodically publish a survey of actual consumer expenditures but these are useless if one needs to examine the impact of changing prices, interest rates, income shocks and other economic conditions on expenditure patterns, as all consumers face those conditions prevalent when the survey was undertaken. The economist has three options. He/she can assume that the expenditure figures measure how individuals spend money (rather than measuring sales made by corporations) and estimate a demand system using available data. This is equivalent to assuming consumers pay cash for all items. The second option is to assume that the correct data exists and examine the intertemporal optimization decision within a dynamic demand system. The lack of suitable data means that these models can never be tested.[2]

The third option and that follows in this paper is to begin with a description of the data limitations, discuss which aspects of the theory are relevant to the particular data set, and estimate the model within the confines of the relevant theory. The test of any hypothesis regarding consumer behavior will therefore be a joint test of both the underlying theoretical model, and of the specified hypothesis itself, hence the theory used is as unrestrictive as possible.

BACKGROUND

In a study published in 1985, Johnson and Widdows examined the emergency fund levels of households. They reported that the total value of all emergency funds (checking and savings a/c's, certificates of deposit, and savings certificates) had fallen dramatically in the six years prior to 1983. The median family had emergency fund levels equal to 16% of annual pre-tax income in 1977, by 1983 this had fallen to 7%. In the latter year only 77% of families had sufficient funds to maintain consumption over a typical period of unemployment. Recent evidence indicates that the level of emergency funds has fallen even further since 1983. The savings rate fell from 6% at the end of 1983 to less then 3% in September 1985 [6].

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[2] Most of the intertemporal demand equations that have been estimated assume that the intertemporal consumer choice can be decentralized, i.e., the consumer first allocates his budget to different periods, and then to different goods and services within the period, with each period's budget acting as a binding constraint, again this makes the analysis of credit use impossible.

This decline in readily available funds does not seem to have adversely affected the credit worthiness of the typical consumer (as measured by the willingness of lending institutions to extend credit). In fact the ratio of consumer installment and home mortgage credit outstanding to disposable income has been trending upward on a path that appears the mirror image of the savings rate [15, Chart 1].[3]

The ratio of debt service repayments to disposable income has also trended upwards. This was particularly evident during 1985. It reached 17.6% in January 1986 making this item more important than food in the consumers' budget [15].

The media has been quick to use figures such as those quoted above to predict an ever increasing delinquency rate [18]. There is, however, no proven relationship between the debt service load and the delinquency rate [5]. One may think of debt service payments as expenditures which must be paid in the manner of a tax, and the income remaining after such payments as discretionary income. While it is true that an increasing dependence on credit must eventually necessitate an increase in the proportion of disposable income used to service the debt, it does not follow that the absolute amount of real discretionary income will fall. Just as a real income increase can negate the impact of a tax increase leaving the consumer with more disposable income, then so too can a real income increase compensate for an increased debt service load, leaving the consumer with more discretionary income. Even if real income should fall, a high debt service obligation does not imply increased deliquencies. Consumers can continue their repayments by reducing cash expenditures on nonessentials and, if the income fall is viewed as transitory, by increasing their credit usage.

An increased reliance on credit does, however, have important implications for the way in which we construct and interpret models of consumer expenditure using available expenditure information. Consider how the ready availability of credit influences the consumers' budget constraint (which is used to derive both the Slusky symmetry and homogeneity conditions). With interest rates of 18-22% on credit cards, banks are more than willing to extend credit to consumers who would ordinarily be considered credit risks. A recent Nielsen survey indicated that the average credit card holder had access to 7 credit cards [18]. The absence of cross checking with other lenders has led to a situation where some consumers have access to almost unlimited short to medium term credit. So long as this is the case, the budget constraint is binding only to the extent that consumers are unwilling to consign a significant proportion of expected future income. Paradoxically the more dependent consumers become on credit the less willing they are to ruin their credit record by defaulting. The absence of a budget constraint invalidates all restrictions based upon it, when the expenditure data on which the restrictions are imposed, are those provided by the government. An example of the importance of this problem can be found in what has by now become a fall tradition - low finance rates on cars. Consider the imposition of Slusky symmetry between any other expenditure item and automobiles in a monthly or quarterly model. A fall in car prices will result in a large increase in *reported* automobile expenditures but this will be reflected in other categories only to the extent of the *downpayments* made on automobiles. Any estimate of the compensated cross price elasticity between cars and other categories will be downwardly biased because consumers can spend more than they earn. This bias will remain so long as consumers are willing to increase their reliance on credit, with increasing real incomes this process can continue indefinitely. One would therefore expect that Slusky symmetry would be rejected by the data.

A second theoretical result that bears further scrutiny is the impact of transitory income shocks on consumption patterns. The Life-Cycle Permanent Income Hypothesis (LCPIH), which is now generally accepted as the correct application of theory to explain the allocation of consumer spending through time, predicts that transitory shocks have a minimal impact on consumption patterns. Most quantitative tests, of the LCPIH have concluded that consumption is sensitive to transitory shocks and have rejected the hypothesis. Flavin in a paper entitled "Excess Sensitivity of Consumption to Current Income; Liquidity Constraints or Myopia?" reports studies by Blinder [3], Hall and Mishkin [11], Hayashi [12], Sargent [17], and Flavin [7] which rejected the LCPIH. In addition to ignoring the problem of credit repayments, and assuming expenditure data exists, the LCPIH also assumes; that capital markets are perfect in the sense that all borrowing and lending occurs at the same riskless rate [10, p. 974], the rate of return or assets is constant and expected to remain so [2, p. 59], that the assumption of a utility function that is separable in the major categories of consumption-durables, nondurables and services allows the estimation of one of these groups alone as the consumption concept [8, p. 129] and finally that a liquidity constraint exists that is an upper bound beyond which consumption cannot occur [8 and 12]. The combined impact of these assumptions is to assume away the reasons for, and problems associated with, credit use. For a detailed account of the impact of these assumptions see Hayes [13], where it is shown that when a more realistic attempt is made to incorporate the credit market as it currently exists, consumption can be expected to be sensitive to transitory shocks. Intuitively, this can be argued as follows. Consider the impact of a negative transitory shock on a heavily indebted consumer. Additional credit may be available but only at considerable expense and with some delay. In the interim, cash will be scarce. Items which cannot be purchased on credit (food and some services) will bear the brunt of the adjustment, while other categories will suffer only to the extent that credit is unavailable. The attempt to stretch the budget to the next paycheck will alter all the parameters of the demand system. The consumer will be more price conscious and will purchase food more on the basis of nutrition than taste. The impact of a positive transitory shock will not be symmetric as the additional income may be used as a downpayment on a budget item if the consumer feels the repayments can be made from expected future income. The analysis of this decision is complex but will depend on the relative interest rates on credit and savings, the expected change in the price of durables, and the ability to obtain additional credit to counteract the inflexibility such additional repayments introduce into future budgeting decisions.

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[3] An interesting, but to the author's knowledge, untested hypothesis is that the decline in the U.S. savings rate is a direct result of the increasing availability of credit. This would occur if consumers used credit in lieu of savings to purchase big budget items, or felt that they could rely on credit cards to stretch their budget in the event of a rainy day.

Finally, one must question the estimates of the income elasticity of demand that would be forthcoming from a model that ignores the above mentioned factors. If one uses expenditures as the correct measure of income the estimated elasticity will depend on the elasticity with respect to earned income and with respect to the "income" which can be achieved by using credit. One must also ask; whether the correct measure of income is disposable or discretionary, and the proportions of disposable income that is transitory and permanent. The choice and estimation of a model that avoids the pitfalls forms the remainder of this paper.

Selecting the Underlying Function Term

The first step in model selection must be in the choice of the underlying function form. The desirable properties of the static model are listed below:

(a) It should be amendable to dynamic formulation.

(b) It should impose no appriori restrictions on the relationships between estimated parameters.

(c) It should not be derived from the assumption of maximization subject to a budget constraint.

(d) No restrictions (other than adding up) should be placed on the parameters

(e) One should be able to test for a different reaction to economic conditions depending on whether credit is or is not available. (This entails estimating a model with both durable and nondurable expenditures).

(f) The time period between observations should be as short as possible to avoid problems with the simultaneous determination of supply and demand, and income and expenditures. Monthly data is also required to allow an accurate estimation of the size of transitory shocks

The Almost Ideal Demand System (AIDS) [4] meets specifications (a), (b), and (d). For condition (c) the AIDS demand function can provide a first order approximation without maximizing assumptions [4, p. 315].

The AIDS demand system can be written

$$w_i = \alpha_i + \sum_j \gamma_{ij} \log P_j + \beta_i \log \left(\frac{X}{P}\right) \qquad (1)$$

where the budget share for commodity i (w_i) depends on the prices of commodity groups 1 to j and total expenditure X. α_i may be interpreted as the average amount of the ith budget share when prices and real income are normalized to one. The parameter γ_{ij} measures the change in the ith budget share corresponding to a 1% change in P_j ceteris paribus, β_i measures the change in the ith budget share caused by a 1% change in log X ceteris paribus. P is a price index[4] which can be approximated by

$$\text{Log } P = \sum_i w_j \log P_j \ .$$

Property (f) was achieved by estimating a monthly model from January 1959 to 1983.

Property (e) depends on obtaining an estimate of deviations between expected and actual income. Any tests performed on the final model will be a joint test of the method used to determine transitory shocks. Considerable effort was therefore placed on the specification of this variable. Hall [10] provides an intuitively appealing motivation for including only consumption in t to predict consumption in t+1, his model is, however, based on the REPIH. Other variables available are the consumer confidence index, the index of consumer sentiment, the lagged value of real income in previous months and the increase in expenditures in previous months.

In the most general form if we let x_t be the expected value of the entire x vector of income and price variables and assuming that agents predict economic behavior on the current and past realizations of both prices and income then we can write

$$x_t = \Omega\, x_{t-i} \quad i = 1 \ldots T \qquad (2)$$

on estimate of x_t can be found using the regression

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[4] This approximation termed the Linear Approximation to AIDS has been used successfully in Anderson and Blundell [1] and in the seminar paper by Deaton and Muellbauer [4].

$$x_t = \Omega[x_{t-1} \cdots x_{t-T}\ c_{t-1} \cdots c_{t-T}\ CCI_{t-1} \cdots CCI_{t-T}]' \tag{3}$$

where CCI is a measure of consumer confidence and c_t is actual consumption in t. The inclusion of zeros in the Ω matrix allows several alternate tests.[5]

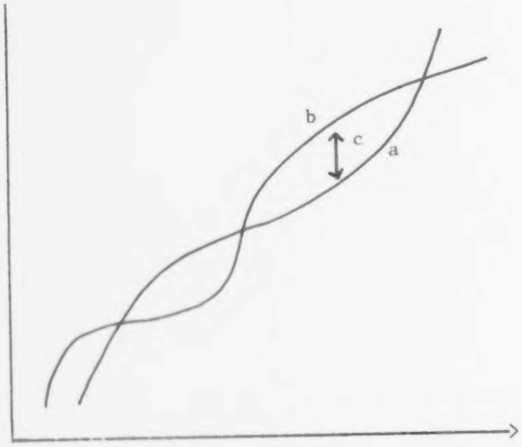
If we define positive error terms from the above regression as negative transitory shocks and negative terms as positive shocks, then a model capable of estimating the impact of derivations from modern term expectations can be built. This is shown schematically in Figure 1.

In Figure 1 line a is the actual path of real income, line b the OLS estimate and the vertical distance, c, is the size of the transitory shock. The dummy variable σ allows for an unsymmetric response to transitory shocks.

Let $D = x - x_t$

Define $\delta = 0$ if $D \geq 0$
$\delta = 1$ otherwise

FIGURE 1. A Schematic Representation of the Method Used to Determine the Size and Sign of Transitory Shocks



CHOOSING A DYNAMIC FORMULATION

The second stage is to extend the above model to capture the dynamic adjustments to macroeconomic shocks. In addition to the properties specified for the static model, the dynamic model should

(g) provide both short and long term elasticities

(h) have sufficient parameters to provide estimates of elasticities for different vectors of price and income.

(i) not impose any specific adjustment process.

Anderson and Blundell [1] have extended the AIDS model to satisfy these restrictions. Consider the long run equilibrium structure

$$w = f(Z, \theta) \tag{4}$$

where θ are the underlying preference parameters and Z a vector of income and price variables. The AIDS model allows us to write

$$w = \pi(\theta)\tilde{x} \tag{5}$$

where $\tilde{x}$ is a vector of transformed income and price variables and π some constant matrix function of the underlying preference parameters.

Anderson and Blundell [1] define a general first order dynamic model as

$$\Delta w_t^n = A\Delta\tilde{x}_t' - \beta\left(w_{t-1}^n - \pi^n(\theta)\ x_{t-1}\right) + \epsilon_t \tag{6}$$

where $\tilde{x}_t'$ represents the $\tilde{x}$ vector with the constant term excluded and n defines an operator that deletes the nth row of any vector or matrix. The deletion of the last row of the share vector and the long run parameter matrix $\pi(\theta)$ is essential since the budget shares sum to one. For a discussion of the econometric properties and the maximum likelihood estimation technique for this system see Green and Johnson [9].

For the purposes of this paper the model can be extended to

$$\underset{n\times 1}{\Delta w_t^n} = \Big(\underset{n\times n+1}{A} + \underset{n\times n+1}{\delta A^*}\Big)\ \underset{n+1\times 1}{\Delta\tilde{x}'} - \underset{n\times n-1}{B}\ \Big(\underset{n-1\times 1}{w_{t-1}^n} - \underset{n-1\times n+1}{\pi(\theta)^n}\ \underset{n+1\times 1}{x_{t-1}}\Big) + \underset{n\times 1}{\epsilon_t} \tag{7}$$

where δ is the dummy variable defined above.

The income variables used in the $\Delta\tilde{x}$ vector change the interpretation of the A matrices but not the estimates of the long run parameter matrix. Hence, we may include the measure of unexpected change in income from above.

INTERPRETATION OF THE A AND B MATRICES

The elements of A* represent the response of each share to short run negative shifts in the explanatory variables. The elements of (A + A*) represent the overall response to changes in these parameters. If the inclusion of A* fails to significantly increase the overall fit of the model they should be dropped. This is equivalent to the rejection of the hypothesis positioning dependency of consumer reaction to the sign of the movement in real or transitory income. Some coefficients of interest in the A matrix are a_{hh}, a_{fh}, and a_{ff}. These terms are respectively; the reaction of the housing share to a 1% change in housing prices, the reaction of the food share to a 1% change in housing prices, and the reaction of the food share to a 1% increase in food costs. These are the average amount by which consumers adjust to a one month change in the dependent variables.

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[5] The estimated results were not sensitive to restrictions on Ω, so long as the estimated equations had high R's.

The elements of the B matrix represent a change in share i caused by a deviation from the desired level of share j where $i=1 \ldots n-1$ and $j=1 \ldots n$. Typical elements would be b_{fh}, b_{fe} and b_{ff}. These terms may be interpreted as; the deviation from the optimal level of the food share caused by a 1% difference between the actual and desired levels of the share devoted to housing, energy, and food respectively. A value of $b_{fh} = -.3$ would imply that in months where the starting value of housing consumption was 10% above the value dictated by the parameters of the long run system, food consumption would on average be 3% below the desired figure.

Notice that the parameters of the long run system need not be similar to those that we would have estimated in a static model. In Anderson and Blundell [1] the parameters of the static model are in every case rejected in favor of the dynamic representation.

The estimation of equation 7 requires the use of the nonlinear routines. Comparisons of different specifications should be based on the asymptotic likelihood ratio criteria. The large number of observations makes it unnecessary to make the small sample corrections proposed by Anderson and Blundell [1].

APPLYING THE MODEL TO U.S. DATA

Monthly expenditures figured on each of the categories listed in Table 1 are available from January 1959. Price indices for each of these categories are either publicly available or can be constructed.[6]

The consumer confidence index is unavailable prior to 1969. A proxy for consumer confidence, the actual increase in total spending for the previous month allowed the estimation to begin in January 1959. The results are presented below. A full description of all results would greatly extend the paper. The emphasis of the reported results is on food sales and on credit use. Only the adding-up restriction has been imposed. Table 1 shows the effect on the various consumption shares of negative income shocks, measured in billions of dollars.

TABLE 1. The Short Term (Monthly) Impact of an Unexpected 1% Negative Deviation Between Actual and Expected National Disposable Income on the Share of each Expenditure Category

Consumption Category	Change in Share
Food	-0.0002337
Clothing and shoes	0.0002116
Gasoline and oil	-0.0002005
Fuel oil and coal	0.0000796
Other nondurables	-0.0002278
Motor vehicles and parts	0.0002891
Other durables	0.0002337
Housing services	0.0000679
Household operations	-0.0001860
Transport services	-0.0000390
Other services	0.0000051

For economists use to thinking of food as a necessity, the decline in the food share seems counterintuitive.[7]

It is commonly felt that American consumers first decide how much they will spend on necessities, i.e., food and shelter, and then allocate the remainder of their income among other less important or luxury items. Any unexpected reduction in real income would be expected to impact first on savings and then on luxury items, durable goods, travel and service. This reasoning best explains consumer behavior in economic conditions more stable, less complex and with lower standards of living than those existant in this economy. In reality, food as defined by government statistics or as seen in a typical shopping basket contains items either superfluous to or of a quality and price well above those required solely for nutritional needs. For most shoppers the marginal dollar spent on food seems to be regarded as something which can be foregone in the event of a budgetary squeeze. In addition, food is one of the very few items which cannot be purchased on credit. In the event of negative transitory shocks, it is cash, and not credit availability that is scarce. The substitution of lower priced meats for the more expensive cuts seems a painless way to stretch the cash budget to the end of the month. The increase in the share allocated to clothing and shoes, motor vehicles and parts, and other durables seems to indicate that consumers use credit cards to maintain consumption of these items when the shock is transitory. This makes perfect sense so long as the decline in living standards is viewed as temporary in nature.

If the above results have validity, they demonstrate the importance of including the differential availability of credit in demand analysis.

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[6] The methods used to construct the missing price indices are available from the author on request.

[7] The coefficient on the food share was significant only at the 90% level. However, when a similar model was estimated using the share of food sales in total retail sales this figure was negative and significant at the 95% level.

The coefficients reported in Table 2 measure the short term response to deviations in shares from their optimal level, this is similar to a partial adjustment coefficient. The interpretation of these coefficients is complicated. It is impossible to differentiate between the agents inability to adjust shares to their new desired levels, and their desire to do so. If the level of expenditure on one expenditure category was constrained above equilibrium, some other share would by definition be below the desired level. Despite this, some general comments can be made. The response of durable goods is in general lower than that for nondurables. This is especially true for housing services. The low figure for transport services may reflect the inability of public transport commuters to react to increases in ticket prices, while that for other services may be due to the high labor content of the commodity. The response time for food is low relative to other nondurables. Examination of the cross price elasticities between food and housing seems to indicate that the response of the food share is retarded by its use as counter-balance to the housing share.

TABLE 2. Measured Short-Term Response to Deviations in Shares From Their Optimal Level

Expenditure Category	Response
Food	.292
Clothing and shoes	.462
Gasoline and oil	.271
Fuel oil and coal	.564
Other nondurables	.395
Motor vehicles and parts	.264
Other durables	.205
Housing services	.067
Household operations	.304
Transport services	.101
Other services	.092

THE INFLUENCE OF PRICES AND INCOME ON FOOD DEMAND

The dynamic nature of the model allowed for the simultaneous estimation of the impact on the food share, of both short and long term changes in its own price and the price of competing products. For example, an increase in the price of housing may have two measurable effects on food demand. The immediate effect would be an increase in the housing share at the expense of the shares of the more flexible areas. Given sufficient time however, people can gradually move expenditures away from housing and back into the competing areas. The parameters estimated for the AIDS are those that occur in the absence of inflexibilities. They are, in essence, the response agents would like to make to changes in economic conditions. It can therefore be expected that elasticities measured from these will be larger than those arising from models where agents are assumed to adjust instantaneously. There is no a-priori reason to expect the direction of response to be similar in both the long and short run and as can be seen from Tables 3 and 4, the effect of changes in house prices on food demand depends greatly on whether one is considering the short or long run.

The numbers in Table 3 are the short run estimates of the percentage change in the food share due to a 1% change in the prices of each expenditure category. The negative signs for transport and housing services may reflect the inability of agents to respond to increases in the prices of these services.

The long run or unconstrained cross-price elasticities between food and the other expenditure categories is shown in Table 4.

The structure of the AIDS allowed for measurement of the long run elasticities for all data points.

Table 4 presents only the extremes of the estimated cross-price elasticities. It is interesting to note that while a short run increase in the cost of household services tends to decrease the food share, this is not true in the long run. This implies that the reduction in the food share that occurs immediately following an increase in this cost is forced on consumers via the inflexibility of the housing market. The negative sign for the last three expenditure categories implies that even in the absence of constraints consumers maintain consumption of these services at the

TABLE 3. The Short Term Response of the Food Share to Price Changes in Each Expenditure Category

	Response
Food	0.1729
Clothing and shoes	0.1742
Gasoline and oil	0.1015
Fuel oil and coal	0.1161
Other nondurables	0.0064
Motor vehicles and parts	0.0363
Other durables	0.0677
Housing services	-0.0128
Household operations	0.0094
Transport services	-0.0657
Other services	0.0220

TABLE 4. Unconstrained Cross Price Elasticity for Food

Expenditure Category	Elasticity Range
Clothing and shoes	0.36 - 0.49
Gasoline and oil	0.05 - 0.07
Fuel oil and coal	0.06 - 0.08
Other nondurables	0.02 - 0.02
Motor vehicles and parts	0.17 - 0.23
Other durables	0.26 - 0.34
Housing services	0.16 - 0.22
Household operations	-0.28 - -0.39
Transport services	-0.40 - -0.55
Other services	-0.15 - -0.21

expense of the food share. These variables tend to be labor intensive. Increases in real national income through time has increased the relative price of these categories. Consumers have reduced the food share to increase their service related expenditures. This trend seems likely to continue so long as real income rises.

Figures 2 and 3 plot the behavior of the own price and income elasticity of demand for food. These estimates are taken from the long run model. The absolute values of both are high, reflecting the unconstrained nature of the estimate. Both measures have become inelastic and behave countercyclically through time. The income elasticity of demand for food in 1974 was higher than at any point during the prior decade. As hypothesized, these measures are dependent on the direction of changes in real income. A given percent decrease in real income causes a larger change in food expenditures than a similar increase in real income.

SUMMARY

An attempt has been made to build and estimate a model, that acknowledges the limitations of published statistics, and which allows for the effect of credit on patterns of consumer expenditure. The model departs from the tradition of estimating demand systems only for nondurable goods. The results indicate; that consumption patterns depend on transitory shocks, that consumers adjust slowly to movements in both price and permanent income, and that the availability of credit can be a determinant in the short term reaction to shocks.

The ready availability of credit has been ignored in most empirical application of demand analysis. The recent increase in credit dependence and reduction in the emergency funds level of US households will be increasingly detrimental to the performance of models which ignore these developments. The results provide support for the hypothesis that the refusal of most retail food stores to accept credit occasionally reduces sales of food items which can be substituted for with less expensive goods. These results indicate two fascinating avenues for further research. The first would be to build a demand system which treats credit repayments as an expenditure item and credit taken out as a form of income. The coefficients on these variables would provide useful information on the factors determining credit use and on the impact of credit repayments in expenditure patterns. The second possibility is to collect time series data on meat sales from one of the few retail food chains which accepts credit. This could be compared with meat sales from similar stores within the same chain which do not accept credit. The effect - if any - of credit availability on the sales of better quality meat cuts would be of interest to both food retailers and livestock producers.

REFERENCES

1. Anderson, Gordon and Blundell, Richard. "Consumer Durables in the UK: A Dynamic Demand System." Economic Journal Conference Papers 94:35-44.
2. Ando, Albert and Modigliani, Franco. "The 'Life Cycle' Hypothesis of Savings: Aggregate Implications and Tests." American Economic Review 53:55-84.
3. Blinder, Alan S. "Temporary Taxes and Consumer Spending." Journal of Political Economy 89:26-53.
4. Deaton, Angus and Muellbauer, John. "An Almost Ideal Demand System." The American Economic Review 70:316-326.
5. Eastwood, David B. and Sencindiver, Cynthia Ann. "A Re-Examination of Consumer Credit Growth." Proceedings of the American Council of Consumer Interests 31st Annual Conference, Fort Worth, Texas, 1985.
6. Federal Reserve Bank of Cleveland. "Economic Trends." October 1986.
7. Flavin, Marjorie. "The Adjustment of Consumption to Changing Expectations About Future Income." Journal of Political Economy 89:974-1009.
8. Flavin, Marjorie. "Excess Sensitivity of Consumption to Current Income: Liquidity Constraints or Myopia?" Canadian Journal of Economics XVIII:115-136.
9. Green, Richard and Johnson, Stanley R. "Econometric Estimation of Dynamic Consumer Demand." Proceedings of the American Council of Consumer Interests 32nd Annual Conference, St. Louis, Missouri, 1986.
10. Hall, Robert E. "Stochastic Implications of the Live Cycle Permanent Income Hypothesis, Theory and Evidence." Journal of Political Economy, August-December 1978.
11. Hall, Robert E. and Mishkin, Frederic S. "The Sensitivity of Consumption to Transitory Income: Estimates from Panel Data on Households." Econometrica 50:461-481.
12. Hayashi, Fumio. "The Effect of Liquidity Constraints on Consumption: A Cross-Sectional Analysis." Quarterly Journal of Economics February 1985:183-206.
13. Hayes, Dermot J. "The Relationships Among Real Interest Rates, Credit, Liquidity, and Retail Sales." MERC Working Paper No. WP2-86, Meat Export Research Center, Iowa State University, Ames, Iowa, October 1986.
14. Johnson, Dixie Porter and Widdows, Richard. "Emergency Fund Levels of Households." Proceedings of the American Council of Consumer Interests 31st Annual Conference, Fort Worth, Texas, 1986.
15. Paquette, Lynn. "Estimating Household Debt Service Payments." Federal Reserve Bank of New York, Quarterly Review 11, No. 2, Summer 1986.
16. Phlips, Louis. Applied Consumption Analysis. Amsterdam: North-Holland Publishing Co., 1974.
17. Sargent, Thomas J. "Rational Expectations Econometric Exogeneity and Consumption." Journal of Political Economy 86:673-699.
18. Time Magazine, March 31, 1986.

FIGURE 2. Own Price Elasticity of Demand for Food

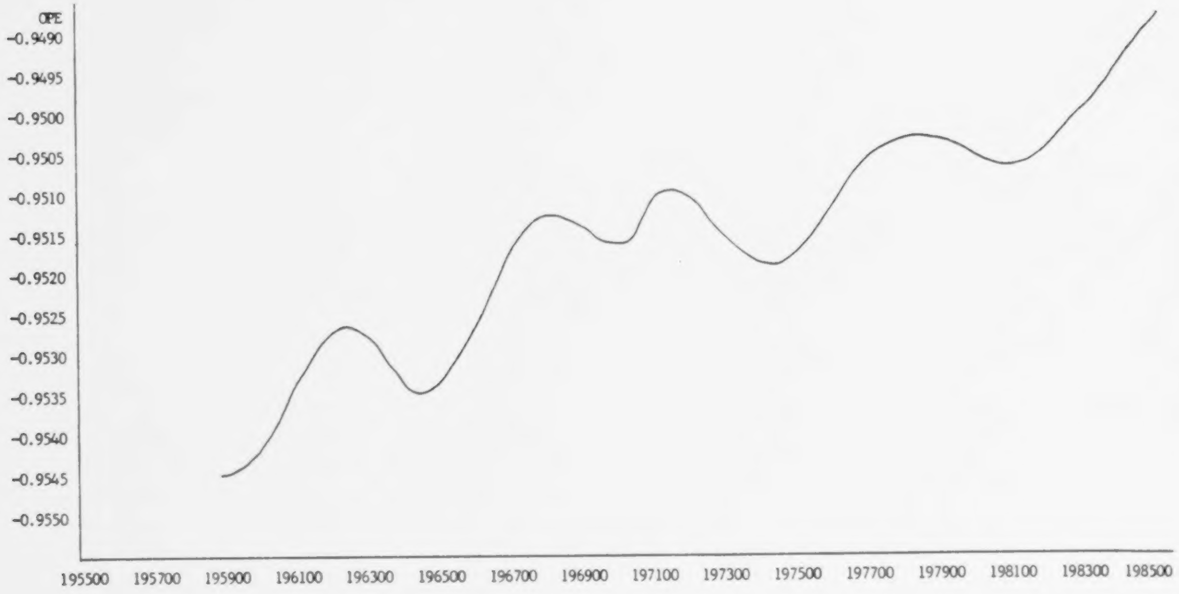

FIGURE 3. Income Elasticity of Demand for Food

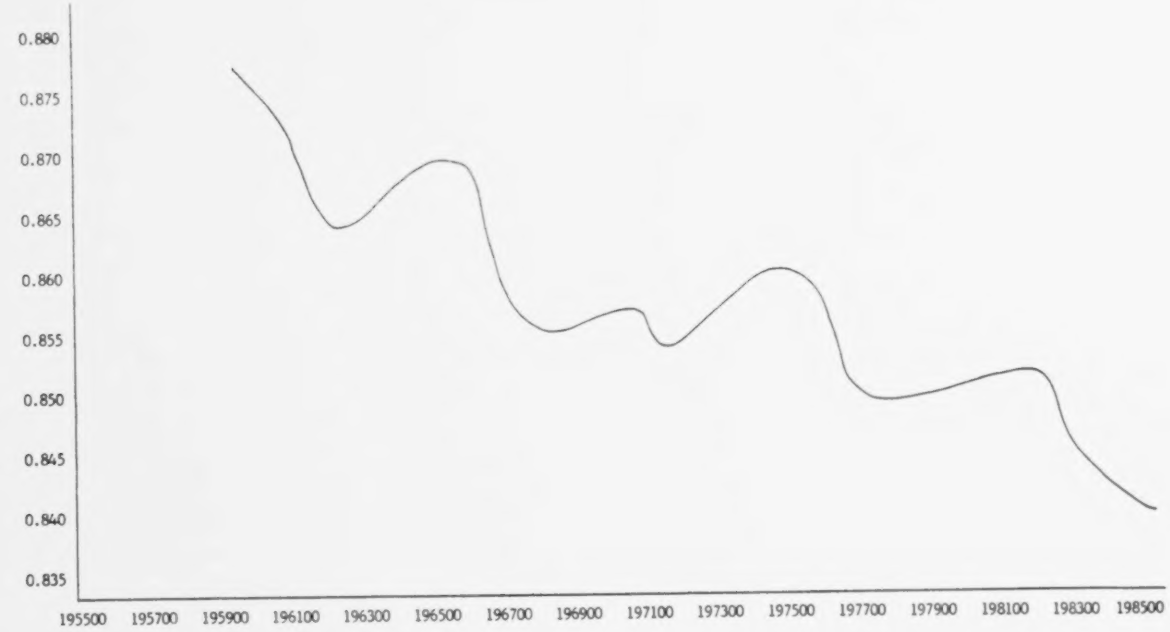

Figure 3. Income elasticity of demand for food

DISCUSSION

Stewart M. Lee, Geneva College[1]

ABSTRACT

Basically there is no relationship among these three papers except that they deal with money. Morse presents an in-depth analysis of the legislative history of truth in savings. Hayes presents a heavily quantitative analysis concerning credit in demand analysis. Lown gives a detailed summary of the Tax Reform Act of 1986 and shows what consumer professionals can do to help their students understand the Act and implement its features into their financial planning.

MORSE PAPER

No one is better equipped to speak to the subject of Truth in Savings than Dr. Richard L. D. Morse, who might well be called the father of Truth in Lending and now the father of Truth in Savings. For 24 years Dr. Morse has been fighting the battle for Truth in Savings. He has given us an excellent legislative history and status report. He contends that there is just as logical an argument for exactness in quoting interest rates for savings as in quoting interest rates for lending. In many ways this legislative history of Truth in Savings is a history of Dr. Morse's activities.

The battle over how interest rates should be expressed has centered around the periodic percentage rate, annual percentage rate and the annual percentage yield. The goal is to have a uniform method of interest rate computation for savings accounts.

Resistance to change, even when the change is for the better, generally dominates. We have seen that in the attempts to go metric. Traditions fall hard.

Morse's advocacy for using the daily rate expressed in cents per $100 is very similar to unit pricing in the marketplace. It is simple and precise, an excellent standard, and who can be opposed to unit pricing?

Morse is not Don Quixote. He is fighting a battle against the entrenched powers of the traditionalists. He fought the same battle for Truth in Lending and time proved him right. The interest rate on savings accounts may never be quoted in cents per $100, but if it is, savers will owe a debt of gratitude to the persistence of Dr. Morse.

HAYES PAPER

The estimation of the impact of credit on consumer expenditure patterns is fundamental in his research.

There is a lack of precision of impact of credit use on consumer expenditures because of the ways the data are reported, which Hayes illustrates in the purchase of a house. The value of the house is a "once-off" increase in housing expenditures even though paid for over 15, 20, or 30 years.

Hayes in the few minutes allowed has attempted to brief a complicated mathematical analysis. One needs to read the paper in detail to get the full impact of his analysis, and even then one may find it somewhat difficult to absorb.

For those who might have trouble with all the detailed formulae, measures of elasticity and cross-elasticities, discussion of coefficients, etc., I feel sure will be enlightened by the succinct summary, particularly the hypothesis that the refusal of most retail food stores to accept credit occasionally reduces sales of food items which can be substituted with less expensive goods.

Hayes has done an interesting piece of research and has indicated some interesting areas for further research in the areas of demand and credit inter-relationships.

LOWN PAPER

Anyone who is brave enough to take on an analysis of the Tax Reform Act is either to be congratulated or pitied. I believe it is important to notice that the Act is called the Tax Reform Act. It certainly is not proving to be the Tax Simplification Act. Just remember one aspect of simplification--the W-4 form!

Lown points out that the marginal tax rate is reduced from 50% to 38.5% in 1987, and then points out that it was 70% in 1981. Some of us remember when it was 91%--not that it impacted on us!

Lown has done, in this paper, what I have not seen done in any other study of the Tax Reform Act, and that is to analyze it strictly as to how it affects consumers.

Lown's references in one case refer to a slowdown in the stock market boom. Even though 1987 references, they must have been written in 1986. There has not been a slowdown, just the opposite until this week!

There should be fewer tax avoidance strategies. There should be, but the way interest is being treated, as Lown points out, is stimulating a whole new activity--home equity loans. How many consumers are going to be burned by this? Those who mortgage their house to buy a car to get the interest deduction, then lose their job and then lose their house. The red flag should be waved here.

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Lown has done a good job pulling together in her paper many of the Act's provisions which makes it a good reference tool to show teachers what they can and should do in helping their students understand and implement the changes brought about by tax "reform."

I like her concluding statement. "Consumer professionals are challenged to help consumers understand, adapt and plan for financial security under the new rules."

THE SOCIAL BENEFIT AND SOCIAL COSTS OF CONSUMER CREDIT

David Caplovitz, Graduate School of the City of University of New York[1]

ABSTRACT

Outstanding installment debt has grown by leaps and bounds since World War II, from 29 billion dollars in 1955, 150 billion in 1975 to 620 billion today. For all its benefits, consumer credit has given rise to a serious social problem: debt entanglement. Fifteen to twenty million people are hopelessly entangled in debt. Many were victims of consumer fraud which has been greatly stimulated by consumer credit.

In the first part of my paper I would like to talk about the institution of consumer credit as it has evolved in the United States, including some of the causes of this phenomenon. In the second part, I would like to talk about the situation of consumer-debtors, especially those who have run afoul of the system, the default debtors. In the course of talking about these topics I will have something to say about the laws regulating consumer credit, laws that were traditionally heavily biased in favor of the creditors.

THE GROWTH OF THE CREDIT SOCIETY

Within the span of only a few generations, America has been transformed from a cash to a credit society. Installment credit is by no means a new phenomenon. Expensive books, such as encyclopedias were sold on the installment plan in the eighteenth century. The honor of inventing installment selling as we know it today belongs to Mr. Singer, who sold his sewing machine on credit back in 1856. For many years, installment credit was viewed as somewhat disreputable and was engaged in more by the working classes and the poor than by the well-to-do. With the advent of the automobile, installment credit achieved legitimacy, but it did not fully come into its own until after World War II. At the end of the war, outstanding installment debt was a negligible 2.5 billion dollars. A decade later, in 1955, it stood at 29 billion; by 1965 it had climbed to 66 billion and ten years later in 1975 it had more than doubled to 150 billion. Its growth in the past decade has been truly explosive. Today, in 1987, outstanding installment debt has more than quadrupled and stands at 620 billion dollars. This comes to more than $7,000 in installment debt for each American household. This excludes mortgage debt and such noninstallment debt as medical bills.

A few generations ago, debt was frowned upon and only imprudent people were in debt. Today, being in debt is the American way of life and a person's credit rating is a major asset, the key to the good things in life. The growth of consumer credit has been so rapid and so pervasive that we might well ask what conditions have led to this transformation to a credit society?. Of primary significance, of course, has been the growth of the economy in general, the rising income of the population and the expansion of its consumer aspirations. As the economist George Katona has noted, it was not until the end of World War II, that America emerged as the first society in history in which a majority of its citizens had discretionary income, that is, enough money left over after meeting its needs, to indulge its wants. But the growth of consumer credit is not merely a reflection of economic expansion, for installment credit has grown at a much faster rate than either gross national product or disposable personal income. Between 1950 and 1970 installment credit grew at the rate of 11 percent a year, while GNP grew at a rate of 5.8 percent and personal income at a rate of 5.5 percent. And the past decade has seen a major recession and slow economic growth and yet installment credit has quadrupled.

The growth of consumer credit must also be understood in terms of the marked shifts in the occupational structure: the growth of the new middle class of salaried employees and the decline of the old middle class of entrepreneurs. The status claims of the old entrepreneurial middle class rested upon the ownership of property. As entrepreneurs, its members operated in a world of risk, susceptible to the vicissitudes of the market place. Entrepreneurial success depended on the judicious allocation of income to capital investment. To the extent that its members acquired debts, it was for the purpose of production rather than consumption. Only those who achieved wealth could afford the luxury of conspicuous consumption. In contrast, the new middle class, employed in large bureaucracies, has provided a ready market for consumer credit. This is so for two reasons. First, the members of this group, unable to rest their status claims on property, are under strong social pressures to acquire the consumer goods that symbolize the middle-class style of life, a pressure that is experienced even by those whose incomes are relatively low. Second, the new middle class is reasonably assured of job security and thus of a steady and even rising income. For the credit transaction to occur, both the debtor and the creditor must assume that the debtor's income is secure. It might be hypothesized that the bureaucratization of the world of work is a prerequisite of the credit society.

Another factor contributing to the credit society is the disjunction between the family life cycle and the income cycle. Salaries in bureaucracies tend to be low at the start and gradually peak when the worker is in his fifties. But workers tend to start families when they are in their twenties and their consumer needs are very great in the early stages of the family life cycle. Installment credit serves as a mechanism for bridging this gap. By mortgaging future income, the family is able to meet its current consumer wants. Installment credit is thus a device for leveling the income curve over the occupational career. The empirical data supports this view. It turns out that young families, those with pre-school children, are most likely to have installment debts.

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[1] Full Professor of Sociology

The explosion in consumer credit is also intimately connected with the changing residence patterns of Americans, the development of suburbs, and the growth of home ownership. Almost three out of every four American families are home owners. The home owner has substantial consumer needs. He must not only fill his house with furniture and appliances, but he and his wife must have a car as well.

Apart from the reasons why consumers want installment credit, the growth of this institution owes a great deal to the efforts of the business community to sell the idea of credit buying to the American public. When installment credit first came into being, it was a means of selling merchandise. But the business community has discovered that there is so much profit to be made in credit that now the relationship is reversed; merchandise has become a device for selling credit. It is increasingly difficult to buy things for cash in the face of the merchant's propaganda to buy on credit. Automobile rentals and hotel rooms in America depend on credit cards, not cash.

From a sociologist's point of view, consumer credit has interesting implications for theories of social class. In America, sociologists traditionally measure social class in terms of income, education and occupation. The credit society has introduced a new dimension, a person's credit rating, which is independent of the older dimensions of income, education and occupation. There are some high paying occupations, like the entertainment industry, that have low credit status, because employment in these fields is not secure. The cash buyer, who lacks a track record in the world of credit, also has a low credit rating. Many people who use credit for the first time are shocked to learn that they cannot borrow as much as they would like.

Consumer credit has several other implications for sociologists. For one thing, it would seem to make people more conservative, more dependent on steady income and less willing to take risks. Second, it undermines that old middle class trait of deferred gratification. Buying now and paying later means that people do not have to defer their gratifications. Young couples need not delay marriage until they can afford to set up a household.

CONSUMER CREDIT AND CONSUMER FRAUD

One undesirable consequence of consumer credit is that is has been a major stimulus to consumer fraud. When market transactions depended on cash, sellers had little opportunity or incentive to employ deception and fraud. The consumer who could afford to pay cash for an automobile or expensive appliance was probably more deliberate and sophisticated in his shopping behavior and there was no point in trying to convince the person without money to make an expensive purchase. All this changed with the advent of installment credit. Wether or not the consumer can afford the purchase is now a secondary consideration. Once the contract is signed, the seller can count on the power of the state to enforce his right to payment.

It should be noted that consumer credit has completely transformed the nature of a transaction. In the old days, when buying and selling depended on cash, a transaction occurred when merchandise was exchanged for money. The seller handed over goods to the buyer and the buyer handed over money to the seller. In the credit society, neither merchandise or money are exchanged. A transaction occurs when the two parties, the buyer and the seller, affix their signatures to a piece of paper called a contract. Once this happens, a legally binding transaction has occurred.

In this world of consumer credit, it is possible for fraud to occur at either end of the transaction. The would-be consumer who signs the contract may well be a fraud in that he has no money, and even if he has money, he may have no intention to pay. But it is equally possible for fraud to happen at the other end of the transaction. The would-be seller, for example, might be passing himself off as a used car dealer. But if the metallic objects on his lot are incapable of moving the buyer from one place to another, then he is not a seller of automobiles, for by definition, an automobile must be able to move if it is to qualify as a car. One might suppose that when a fraudulent consumer deals with a fraudulent seller it would be a standoff. But this simple logic overlooks the complexity and biases of consumer credit law. As I shall soon show when I review these laws, the crooked seller always won and the crooked buyer always lost.

A professor at Yale Law School, Arthur Leff, wrote a book called Swindling and Selling in which he points out the close connection between the confidence game and retailing. His thesis is that retailers frequently employ the same gimmicks that confidence men use to fleece their victims. He notes that confidence men make a distinction between the "little con" and the "big con." In the "little con" the confidence man is after all the money in the victim's pocket. In the "big con", the confidence man sends the victim to his bank to withdraw his life savings. As Leff observes, when retailing was strictly a cash operation, salesmen were limited to the "little con." But with the advent of consumer credit, retailing suddenly became "big con." Once the consumer's signature appears on the contract, the seller has access not only to his bank accounts and property, but to his future income as well through the device of wage garnishment.

THE CHANGING LEGAL CONTEXT OF CONSUMER CREDIT

Until recently, the laws regulating consumer credit were heavily biased in favor of creditors and the consumer movement over the past several decades has worked hard to get these laws changed and many of them have been rescinded. The problem arose because the growth of consumer credit was so rapid that it took the legal profession by surprise. Instead of evolving a new body of law regulating consumer credit, the courts and legislatures simply adopted an old body of law, commercial law, and applied it to the radically different situation of consumer credit. Commercial law and the law of commercial credit regulates relationships between businessmen. As several legal scholars have noted, a major factor contributing to the success of commercial law is what they call the noncontractual element in contract. By the noncontractual elements they mean the personal relationships that exist among the businessmen who have been dealing with each other for years. When something goes wrong, for example, when a shipment of widgits is not up to snuff, the buyer calls the seller and complains. The seller explains that the machinery was on the bum when those widgits were produced and he offers to reduce the price. The problem, more often than not, is quickly resolved over the telephone. But the situation is quite different in the world of consumer credit. The buyers and the sellers do not know each other. The disputes quickly result in law suits. Each year, millions of law suits are filed by creditors trying to collect from debtors and the courts are innundated by such law suits.

Holder-in-due-Course. Of all the biased laws regulating consumer credit, perhaps the worst was the doctrine of the "holder-in-due-course." Under this doctrine, the third party who financed the transaction, typically a bank or finance company, was relieved of any responsibility for the transaction. If the merchandise was defective, the buyer could sue the seller, but meanwhile he had to pay the third party and should the consumer not pay on faulty merchandise, the third party, the holder in due course, could sue him and get the state to enforce his right to payment. The holder-in-due-course doctrine was a big boon to consumer fraud. All kinds of notorious selling schemes flourished under this doctrine. For example, door-to-door salesmen selling $500 burglar alarms that were probably worth $50, would move into a community, get their customers to sign contracts, promptly sell the contracts to third parties, and then disappear. Expensive food freezer plans were sold this way and more recently foreigners in New York have been sold tape recorders and tapes for $500 that would presumably teach them English. Once the customer realizes that he has been cheated, he soon discovers that he cannot locate the seller. Meanwhile, he has to pay the holder-in-due-course. It is in this fashion that the crooked seller always won out over the crooked buyer.

Fortunately this is no longer true. The Federal Trade Commission passed a regulation abolishing the holder-in-due-course in consumer transactions. Now any holder of the consumer credit contract is subject to all the claims and defenses that the buyer can assert against the original seller. But the doctrine of holder-in-due-course is not completely dead. It turns out that the third party can be held liable only in those transactions in which the seller gives the buyer a warranty on the goods sold. Sellers of new cars in New York have a clause in the contract that says they are not responsible for any defects in the car; only the manufacturer is. As a result, the third party in an automobile transaction is still entitled to payment since the buyer has no defenses against the seller which could be applied to the third party.

Confessions of Judgment. Another notorious law was the confession of judgment. This was a clause in the contract whereby the consumer waived his or her right to notice and a hearing concerning the debt. The creditor was given the automatic right to enter a judgment against the debtor for the amount owed on the theory that the creditor must be right and therefore the debtor can be saved court costs by agreeing beforehand that the fault was his. This perverse doctrine has finally been abolished in almost all states.

Wage assignments. Should the debtor default, creditors can now get a judgment and garnishee the debtor's wages. But there was a time when a wage garnishment clause was part of the contract under which the creditor could attach the debtor's wages without first getting a court judgment and without regard to federal limitations on garnishments. Again this nefarious practice has been abolished.

Add-on Contracts. Most merchants used a device known as the add-on contract under which subsequent purchases were added to the original contract. As a result, the merchant could repossess all the goods the consumer ever bought even though the consumer thought he had long paid for the items purchased years earlier. The reason he hadn't was because the payments were pro rated to all the items purchased so that no purchase was paid for until all were paid for. The add-on contract has been reined in in some states. New York now has a law forbidding repossession of merchandise bought on an open ended contract.

Deficiency judgments. Another horror in the world of consumer credit is the deficiency judgment. When merchandise is responsessed, it is almost always resold for far less than its true market value. This is especially true of repossessed automobiles which are generally resold at a wholesale price. The debtor is given credit only for this wholesale price which is deducted from his debt and the creditor can then sue him for the balance. As noted, many of these laws have changed and the legal bias against the consumer is much less today.

THE STRESSES AND STRAINS OF THE CREDIT SOCIETY

Consumer credit has been a major factor in the growth of the economy and the creation of what was termed the affluent society. Buying now and paying later has been a great boon to the economy as consumer demand has stimulated economic growth. But this of installment credit, for all its benefits to society, has also given rise to a new, pervasive and most serious social problem: debt entanglement. Each year, more than twelve million workers have their wages garnisheed by their creditors. When you consider that federal employees cannot be garnisheed and that garnishment is prohibited in some states and that the self-employed, the unemployed, and those who live in poverty cannot be garnisheed, my guess is that anywhere from twenty million to thirty million Americans are hopelessly entangled in debt.

Two hundred years ago, the Federal government invented a cure for this problem, but only a fraction of the people who suffer from debt entanglement take advantage of this remedy. The remedy is personal bankruptcy. During the sixties and early seventies, the personal bankruptcy rate was about 168,000 cases a year. In the mid-seventies, there was a serious recession and personal bankruptcies shot up to 250,000. In 1979, the Federal government, which had not changed the bankruptcy law in more than eighty years, issued a new bankruptcy law which the credit industry claims makes it easier for people to declare bankruptcy. But shortly after the new law went into effect, America had the worst recession since the great depression. Mainly because of this recession, but perhaps because of the new law as well, the personal bankruptcy rate has almost doubled and it is now about 450,000 a year. But this is still only a small fraction of the people who are hopelessly entangled in debt, a group of people that my research has shown, have had their health, marriages and jobs suffer because of their debt problems. My guess is that the stigma of bankruptcy and ignorance about it are major obstacles to the use of this remedy by the millions who are suffering from debt entanglement.

Back in the late sixties I did a study of debtors in default and I was able to learn who these people are, why they got into debt trouble and how the legal system operated in these consumer credit cases.

Although the majority of credit users in America are members of the middle class and are white and fairly well educated, the default debtors tend to be from the less privileged groups. I found that the overwhelming majority were from the working class rather than the middle class and they tended to be from the minority groups, Blacks and Puerto Ricans and other Spanish speaking people. Default debtors are also not as well educated as most debtors are.[1]

The research showed that debt troubles wreck havoc with the lives of consumers. About half of the more than thirteen hundred default debtors we interviewed said that their debt problems had injured their health and about the same number said that their marriages had suffered and more than a third said that their jobs had been affected; either they lost their job or were worried they would lose their job because their employers resented the creditor's contacts and the garnishment orders.

The credit industry's party line is that debtors default because they are irresponsible "deadbeats", but my research showed that this view is not at all true. About half the default debtors got into trouble because they lost income, either because of job loss or illness. About twenty percent defaulted because they had taken on too many debt obligations. Significantly, the next largest group—about 17 percent, stopped paying because they felt they had been cheated by the merchant. The merchandise was defective or it was the wrong merchandise or the creditor lied about the cost. About eight percent defaulted because their marriages had broken up and one partner assumed that the debt belonged to the other. Only 4 percent were so-called "deadbeats" in keeping with the creditor's stereotype.

Perhaps the major findings of my research had to do with the total breakdown of the judicial system in consumer credit law suits. Almost all of these law suits ended up in default judgments as the debtors failed to show up in court to defend themselves. I refer to this as "rubber stamp" justice since the court does not assess facts and render decisions, but rather court clerks simply stamp papers "default judgment." The courts act merely as collection agencies for the creditors.

As I have noted, a substantial number of these debtors have valid defenses, yet they are almost all victims of default judgments. There are many reasons why debtors fail to defend themselves. A major reason is that they cannot afford to hire the lawyers they need. The amount of money in dispute typically ranges from $300 to $800 and a lawyer would cost more than that. One reason why many debtors do not show up in court is that they never receive the summons telling them they are being sued. Process servers in New York are notorious for simply throwing the summons away, a practice known as "sewer service." Still another reason why debtors do not go to court is that they cannot afford to take time from work. The courts in which they are sued are open from nine to five, the very hours in which most debtors work.

The research showed that debtors default mainly because they have come upon hard times. The legal system only compounds their problems. They have judgments entered against them, their goods are seized, their wages are garnisheed, their jobs are threatened and their health and marriages suffer. In many respects, default debtors are people whose lives have been ruined.

AN ALTERNATIVE SYSTEM

I have been deeply troubled by the misuse of the legal system in consumer credit and I have tried to imagine alternative systems which would not have the stresses and strains of the current system. I have come up with an alternative model and for what it is worth, I would like to share it with you.

Consumer credit, like many other things in life, involves risk. The system depends on the debtor's ability and willingness to pay. As my research showed, many things can undermine the debtor's ability to pay and sometimes he loses the willingness to pay. Society long ago invented a way of coping with risk. It is called insurance. The risk of dying has given rise to life insurance; the risk of fire, to fire insurance, and the risk of theft to theft insurance. Instead of relying on a harsh collection system, why can't consumer credit be put on an insurance basis? When the debtor defaults, the creditor would be made whole by the insurance system.

The insurance system of credit would require each consumer to be issued a credit limit card. (Instead of having five, ten, or fifty credit cards, the consumer would have only this one credit limit card.) The consumer's credit limit would be set by his income and his past credit record. When the consumer goes to make a purchase he would show his credit limit card to the merchant who would plug it into a remote terminal connected to the data bank that would have every consumers' credit record. If a green light goes on it would mean the consumer is not at his credit limit and can afford this new purchase. But a red light would mean that the consumer is already at his limit and the merchant can extend him credit only at his own risk. The transaction would not be covered by the insurance system. This system would have many virtues. For one thing, it would eliminate a major reason for defaults, consumers overextending themselves. In this system, no debtor would be able to take on more debts than he can handle. Other advantages of the system are that consumer cases would be taken out of the courts, thus taking a heavy burden off the court system. Creditors would never have to worry about losing good will because of their collection tactics and they would not have to worry about debtors going bankrupt.

The question arises as to how to pay for this insurance system. I am convinced that it can be financed by a percentage of the finance charge. Consumer credit today costs about 20 percent interest. A fair number of these percentage points are intended to cover the creditor's losses and risks. In my system, about half the finance charge say 10 percent, would go to the insurance company. I have no idea whether a private insurance company could make a profit selling credit insurance. If it could not, it might still be in the interest of government to offer such a credit insurance system. It would be much less costly than having 20 to 30 million people hopelessly entangled in debt with the resulting damage to health, employment, and the economy. The debt entangled consumers have been forced out of the marketplace. Were they restored to health, they would be active consumers again, stimulating the economy. The insurance company might well work out some arrangement with the default debtors, allowing them to pay when they are back on their feet.

Critics of my system argue that consumers would take advantage of it and walk away from their debts. But this criticism overlooks a powerful weapon that the credit industry has to insure consumer honesty: the consumer's credit rating. Consumers do not want to jeopardize their credit rating and therefore will pay their bills. I have talked about this idea before groups of merchants, bankers and consumers and I haven't been able to convince anyone of its merits. Perhaps some of you might consider this an idea whose time has come.

REFERENCE

1. Caplovitz, David. Consumers in Trouble, A Study of Debtors in Default. New York The Free Press, 1974

TAX REFORM AND CONSUMER CREDIT

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Abstract

The Tax Reform Act of 1986 established a schedule for phasing out the deductibility for federal income tax purposes of interest paid for credit cards and other nonmortgage consumer loans. This paper contains estimates of the effect of TRA on the after-tax cost of consumer and mortgage credit and of the percentage of total consumer credit outstanding used by households that itemized deductions.

The Tax Reform Act (TRA) of 1986 established a schedule to phase out the deductibility of interest paid on credit cards and other nonmortgage consumer debts. The deductibility of finance charges paid for credit cards, auto loans, student loans and other consumer loans will be phased out over a four-year period. In 1987, 65 percent of such interest will be deductible, 40 percent in 1988, 20 percent in 1989 and 10 percent in 1990. The purpose of this paper is to analyze the role of federal income taxes in consumers' credit-use decisions and to evaluate the likely effects of tax reform on household credit markets. Included is a discussion of credit-users' ability to substitute mortgage credit for consumer credit.

IMPACT OF THE TAX REFORM ACT ON THE COST OF HOUSEHOLD CREDIT

Households use credit when the marginal utility derived from increasing current consumption above the level provided by current income exceeds the marginal costs associated with using credit. Interest paid for consumer loans was deductible for taxpayers with other deductible expenses that exceeded the standard deduction. Therefore, the cost of credit for those borrowers was reduced by the tax shield created by the interest expense deduction.

Under the old tax rules, the higher the taxpayer's marginal tax rate, the higher the value of the tax shield created by interest expenses and the lower the after-tax cost of credit (for those who itemized deductions). Holding the interest rate constant, low income borrowers paid a considerably higher after-tax rate for credit than those borrowers in the higher income bracket (Table 1). Therefore, the negative effects of tax reform on the cost of consumer credit will be greatest for high income borrowers. As shown in the bottom panel of Table 1, after the interest deduction is fully phased out, the after-tax cost of consumer credit will be between 57 percent and 83 percent higher for borrowers with annual income above $50 thousand. Low- and middle-income borrowers who continue to use consumer credit will see an increase in their after-tax cost of consumer credit ranging between 20 and 34 percent.[2]

Under the Tax Reform Act, mortgage interest will remain fully deductible. And, households may borrow against home equity for consumer purposes to a limited extent and deduct the interest in the calculation of adjusted gross income. Those households with adjusted gross income below $30,000 who substitute home equity loans (mortgage credit) for consumer credit will realize a decline or only a slight increase in their after-tax cost of credit (-1 percent to 1 percent). (Table 1) For all other income groups, the cost of credit will increase between 9 percent and 16 percent if mortgage credit is substituted for traditional consumer credit contracts.[3]

This analysis demonstrates the magnitude of the disincentives for borrowing to invest in consumer durables contained in the TRA. In fact, the benefits of all types of capital investments are reduced by TRA. For capital equipment investments, the reductions come from the elimination of the investment tax credit and longer depreciation schedules. For investments in consumer durables the disincentive comes from the increase in the after-tax cost of credit. In the next section we use cross- sectional data collected in the 1983 Survey of Consumer Finances to estimate the extent of consumer credit use among taxpayers whose cost of credit may be adversely affected by TRA.[4]

DO CREDIT-USERS ITEMIZE? CROSS SECTIONAL EVIDENCE

Those households who used consumer credit but did not itemize deductions for tax purposes will realize no increase in their cost of consumer credit as a result of the provisions contained in TRA related to the deductibility of interest paid on nonmortgage consumer debt. Therefore, the assessment of the impact of TRA on consumer credit markets must separate credit users into itemizers and nonitemizers.

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[2] The effects of TRA on the general level of interest rates have not been taken into account. If TRA is associated with a drop in interest rates, the figures in Table 1 overstate the rate of increase in the cost of credit.

[3] This statement is based on the simplifying assumption that the before-tax cost of consumer and mortgage credit is the same. The increased cost simply reflects the decline in value of the tax shield associated with deducting interest at a lower marginal tax rate.

[4] The Survey Research Center at the University of Michigan collected extensive information related to the composition of assets and liabilities for a national sample of 3,824 households. These data are entitled the 1983 Survey of Consumer Finances and are available from the Board of Governors of the Federal Reserve System.

TABLE 1. Marginal Tax Rates: Before and After the Tax Reform Act (tax rate (t) used to determine the after-tax cost of credit) Where After-tax Cost = (1-t) (interest cost)

Income (000)	Before (t)	After (t)
$13-25	.166	.176
26-30	.189	.180
31-50	.251	.184
51-100	.364	.316
101-200	.455	.370

Source: Hendershott, Follain, Ling. "Real Estate and the Tax Reform Act of 1986." p.34.

Percentage Increase in After-tax Cost of Credit

	Mortgage	Consumer
$13-25	1%	20%
26-30	+1	23
31-50	+9	34
51-100	+8	57
101-200	+16	83

The Internal Revenue Service reported that in 1984, 38 percent of taxpayers itemized deductions.[5] Some have cited that statistic as an indicator that the impact of tax reform on the consumer credit industry will be small. But, the percentage of taxpayers who itemize must be evaluated relative to the percentage of households using consumer credit to fathom the true potential impact of TRA on consumer credit use.

According to survey data collected at different points in time over the last 15 years, approximately 50 percent of households use consumer instalment credit at any point in time [1; 2, p.94]. In an analysis of the incidence of consumer credit use by households by income quintile, the probability of debt use was highest for households in the highest income quintile (Table 2). Sixty-one percent of households with annual income greater than $35,463 used consumer credit while only 29 percent of those in the lowest income quintile used credit. And even more important, the credit users in the highest income quintile held 42 percent of consumer credit outstanding in the survey. Those in the lowest income quintile held only 4 percent of consumer credit outstanding.

Households that itemize must have deductible expenses that exceed the standard deduction. Those households that are most likely to have deductible expenses that exceed the standard deduction are those currently paying on a home mortgage. The third panel in Table 2 shows that in the highest income quintile, 77 percent of households using consumer credit also were paying on a mortgage. Only 17 percent of borrowers in the lowest income quintile were paying on a mortgage.[6]

These data support the conclusion that in 1983 the bulk of consumer debt was held by high income households--those who were likely to pay taxes at a high marginal tax rate and enjoy a low after tax cost of consumer credit. Most expected to be more than the standard deduction. In total, 60 percent of consumer credit outstanding in 1983 was held by households with a mortgage (panel D, Table 2). Those debt users were likely to have itemized deductions and deducted interest paid on consumer loans.

TABLE 2. Credit Use Patterns 1983**

	Income Quintile				
	Lowest	Second	Third	Fourth	Highest
A. Proportion of households with consumer debt	29	49	53	60	61
B. Share of total consumer debt in survey*	4	11	17	26	42
C. Proportion of debt-users with a mortgage	17	30	46	62	77
D. Percent of consumer debt in quintile held by households with mortgages	0.68	3.3	7.8	16.1	32.3

*The total debt figures include a measure of revolving credit card debt which excludes the convenience use of credit cards.

**In the 1983 survey, the income breaks for the quintiles are:

Lowest	$ 0 - 9,500
Second	9,501 - 17,090
Third	17,091 - 24,478
Fourth	24,479 - 35,462
Fifth	35,463 and up

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

To reinforce the conclusions drawn from the survey data about credit users who itemized, data produced from the Internal Revenue Service were further analyzed. While 38 percent of taxpayers itemize deductions, 70 percent of itemizers in 1984 claimed nonmortgage interest deduction.[7] Thus, an estimated 27 percent of taxpayers claimed nonmortgage interest deductions (.70 x .38).

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[5] In 1983, 37 percent of total individual returns itemized deductions, according to information in the Statistical Abstract of the United States, 1986, p. 317. The Internal Revenue Service reported 38 percent of individual tax payers itemized deductions in 1984. USA Today, 2 February 1986.

[6] Sullivan and Worden [5] found that, holding other things constant, households with a mortgage were significantly more likely to use consumer credit and used a significantly higher amount relative to income than households without a mortgage.

[7] Individual Income Tax Returns 1984, Statistics of Income Division, Internal Revenue Service, November 1986.

With approximately 50 percent of households using consumer credit at any point in time and 27 percent of taxpayers claiming nonmortgage interest deductions, an estimated 53 percent (.27/.50) of households using consumer credit deducted nonmortgage interest expenses for tax purposes in 1984.

In sum, the cost of consumer credit for about 53 percent of credit users (62 percent of consumer credit outstanding) would be impacted by the provisions of the Tax Reform Act. In the next section, likely adjustments to TRA are identified and discussed.

BORROWERS' OPTIONS: THE IMPLICATIONS OF TAX REFORM ON CREDIT MARKETS

Based on estimates from the previous section, the elimination of the deductibility of consumer interest will increase the cost of consumer credit for a significant percentage of households using consumer credit. The household borrower who normally deducted consumer credit interest expense for tax purposes has several options for adjusting to the effects of TRA on the cost of using consumer credit.

Option 1. The borrower may delay consumption. With the higher cost of debt, the marginal utility of immediate consumption may not be sufficiently high to justify borrowing. To counter the effects of lower spending on the economy, the Federal Reserve may effect monetary policy to reduce the general level of interest rates. Thus, the cost of credit for low-bracket borrowers may not change much as a result of TRA. However, even with lower interest rates in general, the cost of consumer credit for high bracket individuals will increase significantly.

Option 2. The buyer might pay cash instead of using credit. This option is available for those who borrow for consumption purposes while maintaining liquid asset balances. Analysis of the 1983 Survey of Consumer Finances revealed that about 38 percent of borrowers (who held about 35 percent of consumer credit outstanding) had liquid asset balances at least equal to their total outstanding consumer credit obligations [6]. Without the tax incentive to use consumer credit, these households may opt to pay cash. The other 62 percent of credit users had very low liquid asset balances and could not pay cash unless they delayed consumption to save for major purchases.

Option 3. The borrower may shop more for credit. Rather than delay consumption, the borrower might expend more effort shopping for the best interest rate on financing. Consumers most likely to shop for interest rate for consumer loans are upper income, educated, young borrowers, those who are likely to see an increase in the cost of consumer credit as a result of TRA [7]. Consumers were also more likely to shop for the best interest rate for large loans than for small loans. Therefore, TRA may have a more dramatic effect on the market for auto credit than on the market for smaller loans.

Option 4. The borrower may be more receptive to credit pricing arrangements where the cost of financing is intermingled with the cost of merchandise or noncredit services. The new nondeductibility of interest for traditional types of consumer credit clearly reduces the buyers' incentive to shop for the merchandise and financing separately. Under the conditions where consumer interest is not tax deductible, special financing programs offered by manufacturers may be even more effective than was the case in the past.

Lenders who are not manufacturers may price credit according to other relationships the consumer may have with the lender. Credit card prices may be determined by the number of other banking services used by the cardholder. Such pricing arrangements provide a lower cost of credit for the credit user who is sensitive to price while providing the lender with some protection of profit margin through prices charged for other services.

Option 5. The borrower may substitute mortgage credit for consumer credit. For the approximately 65 percent of credit users who are homeowners, the substitution of mortgage credit for consumer credit is a viable strategy for preserving their interest deduction.[8] Even following this strategy and holding rates for the two types of credit constant, the cost of credit will increase from the pre-TRA level for most borrowers (see Table 1, bottom panel).

For the 35 percent of credit users who do not own a home, that strategy is not available. But, those consumers are considered less likely to have taken the consumer interest deduction before TRA. Thus, their use of consumer credit is not expected to be significantly affected by tax reform, holding availability constant.

SUBSTITUTION OF MORTGAGE CREDIT FOR CONSUMER CREDIT

The Tax Reform Act will allow homeowners to borrow against some portion of their home equity and deduct interest paid for tax purposes. In this section of the paper the amount of home equity in the portfolios of households that participated in the 1983 survey is analyzed in total and with regard to the breakdown between equity that can be borrowed against with a tax-advantage versus equity that will not generate tax-deductible interest.

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[8] In the 1983 Survey of Consumer Finances, 65 percent of households using consumer credit owned (or were purchasing) their principal residence.

Total Equity

The average amount of home equity for households owning their home in 1983 was $56,133. About 12 percent of households had home equity equal to less than $15,000 and about one out of five homeowners had home equity which was greater than $75,000 (Table 3).

For most homeowners and most credit users, equity in their principal residence represented the bulk of their total assets (Table 4). Kane determined that between 1960 and 1970, all but the wealthiest households shifted from financial assets such as savings accounts to real assets. Given the rapid inflation in the value of real assets between 1970 and 1980, it is not surprising to find that in 1983, the bulk of accumulated wealth held by households was held in the form of home equity.

Table 3. Value of Houses Owned and Net Equity in Current Dollars

House value (dollars)	
less than 25,000	9%
25,000-49,999	30
50,000-74,999	25
75,000-99,999	16
100,000-149,999	12
150,000 and more	8
Total	100%
Mean	$72,238
Median	$57,500
Equity in house	
less than 15,000	12%
15,000-24,999	12
25,000-49,999	33
50,000-74,999	21
75,000 and more	22
Total	100%
Mean	$56,133
Median	$41,261

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

TABLE 4. Home Equity Relative to Total Assets*

	All Homeowners
0-50%	10.67%
51-75	17.64
76-90	21.29
91-100	49.21
NA	1.18
	100.0%

*Total Assets = Home Equity plus Financial Assets
Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Real Equity

Estimates based on the 1983 Survey of Consumer Finances indicate that 65 percent of the equity homeowners had was due to home price appreciation since they had bought it, while 35 percent represented the homeowners paid-in equity (real equity). And credit users do not have a disproportionate share of real equity--the type of equity that can be borrowed against under TRA which generates tax-deductible interest. The distribution of the ratio of real equity to total home equity is essentially the same for consumer credit users as for homeowners in general (Table 5).

TABLE 5. Real Equity Relative to Total Home Equity (1983)

	All homeowners	Homeowners Who Are Consumer Credit Users
0-10%	10.68%	9.78%
11-15	9.47	9.68
16-20	10.93	10.36
21-25	9.93	10.16
26-50	28.57	27.23
51-100	22.76	23.39
>100	2.36	2.69
NA	5.31	6.71
	100.0%	100.0%

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve Board.

Real Equity/Consumer Credit Outstanding

An estimate of ability of consumer credit users to switch to tax-advantaged equity secured credit is provided by the average ratio for each income quintile of the dollar amount of consumer credit outstanding relative to the dollar amount of real equity for each consumer credit user who owned a home (Table 6). The average ratio of credit outstanding relative to real equity in the home increased linearly with income. On average, debt users in the lowest income quintile had $0.66 cents of consumer credit outstanding for every dollar of real home equity in 1983. In contrast, debt users in the highest income quintile had $0.98 of consumer credit outstanding for every dollar of real home equity. These data suggest that high-income borrowers who would benefit the most from a shift from consumer credit to mortgage credit (to control the effect of TRA on their cost of credit for consumption purposes) may have less flexibility for making the switch.

TABLE 6. Can Borrowers Switch? Ratio of Consumer Credit/Real Equity

Income Quintile	Mean	Median	Minimum	Maximum
Lowest	.66	.21	-0.09	9.63
Second	.73	.20	-0.69	13.28
Third	.76	.18	-5.93	27.27
Fourth	.87	.30	-43.68	79.13
Highest	.98	.23	-32.11	42.93

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.,

IMPLICATIONS FOR CREDIT MARKETS AND CONSUMER CREDIT LENDERS

When the tax deduction of consumer interest is fully phased out TRA will, holding other things constant, increase the cost of consumer credit by amounts ranging from 20 percent to 83 percent for borrowers using consumer credit who itemized before TRA. Further, the cost of credit for an estimated 60 percent of consumer credit users will be affected by the change in the tax deductibility of interest. Some probable effect of TRA on consumer credit markets are:

1) The incentive for credit use by formerly high-bracket households has been reduced. The use of high-rate credit by upper-income households will likely decline. Borrowers in the highest income quintile used almost 39 percent of the balances that were revolved on unsecured revolving credit lines (Panel B, Table 7). Therefore, contrary to popular belief, many upper-income households were paying finance charges on credit cards. Given the dramatic TRA-induced increase in their cost of consumer credit, these households are expected to become very rate sensitive and be attracted by competitors in the revolving credit arena that offer lower interest rates on credit cad products.

Upper-income consumers were most likely to use credit from banks and credit unions (see panel C, Table 7). As these borrowers reevaluate their use of consumer credit, credit unions (as low-rate lenders) could be in a an advantaged position to keep their nonequity secured loan business. The bulk of credit used by upper-income households was auto credit, and the auto manufacturers may be in the best position to win that business with incentive rate programs.

2) Loans for additions and repairs will be more attractive. In the 1983 survey, loans for additions and repairs made up about 10 percent of consumer credit outstanding. As investments in additions or improvements add to the use value of the home, funds borrowed for such purposes generate deductible interest if the home is used for security. The high closing costs of real estate secured loans may have kept some borrowers from using that kind of credit in the past to finance minor additions and repairs. With tax reform one would expect consumers to be more interested in making such expenditures and using equity secured credit for financing those expenditures.

3) The role of financial subsidiaries of manufacturers and retailers as providers of credit is likely to expand. Under TRA, shoppers have less incentive to separate the cost of the durable purchased from the cost of financing. Retailers and manufacturers who have not offered financing programs to their credit customers may be expected to do so.

4) The profitability of bank card portfolios will decline as bank cards appear to be especially vulnerable to the effects of tax reform. There will be tremendous market pressure on rates as upper-income revolvers search for ways to lower the after-tax cost of credit used. To offset those revenue losses, lenders may have to raise fees to the merchant, raise fees to non-revolvers, or reduce the risk of customers represented in their portfolios.

TABLE 7. Distributions of Type of Credit Used by Household Income

A. Type of Credit Used by Income Quintile	Income Quintile				
	Lowest	Second	Third	Fourth	Highest
Additions & Repairs	9.53%	6.05%	8.67%	14.70%	11.05%
Car Loans	47.91	64.66	64.05	63.74	57.37
Other Loans	30.33	18.41	13.53	9.78	20.94
Revolving Credit	12.23	10.88	13.75	11.78	10.64
	100.00	100.00	100.00	100.00	100.00
B. Credit Outstanding Across Income Quintile					
Additions & Repairs	3.3	6.2	13.5	34.4	42.6
Car Loans	30.0	11.9	18.1	26.9	40.0
Other Loans	6.9	12.2	13.7	14.9	52.4
Revolving Credit	4.1	10.5	20.3	26.2	38.9
Total	3.8	11.1	17.1	25.7	42.3
C. Credit Sources By Income Quintile					
Commercial Banks	16.5	24.9	20.5	20.5	23.5
Savings Institutions	3.7	1.8	5.8	5.6	4.3
Credit Unions	9.8	7.0	9.5	16.6	15.8
Small Loan Companies	6.2	3.3	4.3	7.4	2.8
Auto Finance Companies	11.7	19.5	16.0	10.0	9.3
Dealer/Store	34.2	31.0	31.6	23.8	20.4
Other	17.9	12.5	12.1	16.0	23.9
	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 1983 Survey of Consumer Finances, Board of Governors of Federal Reserve System.

5) The substitution of mortgage credit for consumer credit is likely to narrow the geographic scope of the relevant market for consumer credit. The bank credit card, one of the most popular consumer credit products in recent years, was offered by lenders competing in a national market. However, the home equity loan is a product produced in a local market setting. Understanding local market conditions is a key to making profitable equity secured loans and local market lenders generally serve the needs of consumers borrowing against their home equity. Thus, TRA may have the likely effect of increasing the dispersion in prices of credit across markets and limiting the availability of credit at competitive rates for some borrowers (in small local markets).

6) Credit information may become more proprietary. Once a consumer gets a line of credit secured by home equity, he or she will engage in less credit shopping. Instead of applying for different loans as needs arise, the consumer simply draws down the line when it is needed.

The lender, being in a secured position, may base the credit decision on the value of the house relative to the balance on the line, eliminating the need for a credit report. The number of credit reports requested in an individual's lifetime would be expected to fall sharply a factor which could dramatically influence the cost of credit information.

7) Consumers will have more incentives to consolidate their financial relationships. Lenders who price credit services according to the total nature of the relationship the borrower has with the lender will provide consumers a strong incentive to consolidate their financial accounts with one lender.

8) Those lenders serving low-income consumers and renters can expect little impact from TRA. Lenders making second mortgage or equity secured loans should benefit from TRA.

CONCLUSIONS

The higher the household tax bracket (before the enactment of the Tax Reform Act of 1986), the more significant the effect on the cost of consumer credit of the change in the tax treatment of consumer interest for those households that itemized deductions. Survey data provide evidence that approximately 60 percent of credit outstanding in 1983 was used by households that itemized deductions for tax purposes.
Given the phase-in of the new provisions, the changes to the market may not come swiftly. But this analysis of the data supports the view that the changes will be significant. Lenders who will not be affected are those who serve low-income consumers and renters. Lenders who have concentrated on second mortgage and equity secured loans are in a better position relative to other types of lenders. The most dramatic changes will be in the market for revolving credit--high-rate credit used heavily by high-income households. New pricing and market segmentation strategies will probably be necessary to maintain the attractiveness of the product for those households.

References

1. Dunkelberg, William C., and Worden, Debra Drecnik. "The Quality of Consumer Credit," School of Management, Purdue University, 1986, photocopy.

2. Durkin, Thomas A., and Elliehausen, Gregory E. 1977 Consumer Credit Survey. Board of Governors of the Federal Reserve System, Publications Services, Washington, D.C., 1977.

3. Hendershott, Patric H., Follain, James R., and Ling, David C. Real Estate and the Tax Reform Act of 1986. ORER Paper No. 35, Office of Real Estate Research, University of Illinois, 1986.

4. Kane, Edward. Accelerating Inflation and the Distribution of Household Savings Incentives. Working Paper No. 30, Credit Research Center, Purdue University, 1979.

5. Sullivan, A. Charlene, and Worden, Debra Drecnik. Economic and Demographic Factors Associated With Consumer Debt Use. Working Paper No. 52, Credit Research Center, Purdue University, 1987.

6. Sullivan, A. Charlene. Liquid Assets and Consumer Credit on the Household Balance Sheet. Working Paper No. 53, Credit Research Center, Purdue University, 1987.

7. Worden, Debra Drecnik, and Sullivan, A. Charlene. Shopping for Consumer Credit: Implications for Market Efficiency. Working Paper No. 54, Credit Research Center, Purdue University, 1987.

LIFE CYCLE EFFECTS OF THE COSTS OF RAISING CHILDREN

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ABSTRACT

The authors examined Canadian expenditure data to examine the effects of children on family spending behaviour. Results indicate that durables, food eaten (purchased) away from home, and adult clothing are luxury goods for the two-child family. Economies to scale are noted for food and shelter expenditures. Two-child families appear to substitute out of expenditures for meals eaten away from home, adult clothing and other goods and services in order to meet increased demand due to the presence of children.

INTRODUCTION

The purpose of this paper is to examine the influence of life cycle changes in family composition on direct expenditure. Specifically, we are concerned with how the presence of children influences consumption decisions by the family at different stages of the life cycle. In sum this research makes four contributions to the literature. The first contribution relates to the characteristics of the specific empirical model chosen for the analysis, the second relates to analysis of the relationship between family composition and expenditure decisions, the third relates to use of recent expenditure data and fourth relates to operationalization of data.

Findings are based on results from an empirical model that incorporates both continuous measures of adult equivalence and a flexible functional form. In the study a revealed preference approach using continuous household size and structure variables is adopted. Although revealed preference is a common approach for deriving equivalency measures found in the consumer demand literature [2], few studies also incorporate a continuous (versus stepwise discrete) approach to measure the effects of family size and structure on spending behavior[3]. Friedman (1957) first developed the concept of a continuous equivalence scale measure. Its strengths include continuity over size or age range measures (i.e., scales do not "jump" between adjacent age categories) and fewer required parameters for estimation. No studies in the consumer demand literature whose purpose is to explicitly measure the costs of raising children have used continuous scales. The present study incorporates a model which assures the theoretical restrictions of adding-up while allowing for nonhomogeneous demand functions and economies of scale. Thus, the model provides an effective balance between the concern for theoretical plausibility and the practical need to explain variance in the data.

An additional contribution of this work is that more recent expenditure data is used in the analysis than have been used in previous studies. The data used in the analysis are taken from the 1982 Canadian Family Expenditure Survey (FES). Lazear and Michael (1980) use the 1960-61 Survey of Consumer Expenditures, while Olson (1983), Espenshade (1984), and van der Gaag and Smolensky (1982) all use the 1972-73 Consumer Expenditure Survey. Although Espenshade (1984) applies the CPI to update expenditures to 1981 dollars, such an approach can potentially bias the results. This study will use more recent expenditure data, thus enhancing external validity of the empirical findings.

The final contribution of this study is to give particular attention in defining expenditure categories. Most researchers simply use the aggregate expenditure categories defined by the collection agency (Bureau of Labor Statistics or Statistics Canada) as their expenditure categories. There are at least two problems with this approach. First, certain expenditure categories include outlays for such durable goods as automobiles. Thus, for example, when a child is added to a household and fewer new cars are purchased, it appears that expenditures for transportation decrease. This phenomenon can also result in researchers erroneously concluding that there exist economies of scale associated with the effects of children on transportation expenditures.

The second problem with using the most aggregate of expenditure categories for deriving estimates of the cost of raising children is that the potential for measuring substitutions between adult and child goods is lost. The present analysis addresses such problems.

The remainder of the paper is organized as follows. First an exposition of the model used in the analysis is presented. Next, we present a description of the data and procedures used in the final analysis. Finally, results are presented followed by some summary remarks.

MODEL

The economic model used in this analysis is the multinomial logit[4] budget allocation model (MLBAM) developed by Tyrrell in 1979. The MLBAM is expressed in the logistic form of the budget shares, thus assuring the adding-up property when a complete system is estimated (i.e., assuring the budget shares will sum to one). Since the data used in this research are cross-sectional, prices are assumed constant, and thus drop out of the model.

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[1] Assistant Professors of Family Economics. We gratefully acknowledge financial support for this project from the Social Sciences and Humanities Research Council, Canada, and our respective Universities.

[4] Due to space limitations we were unable to include a complete exposition of the model. A fuller version of the paper is available from the authors upon request.

MLBAM also incorporates a continuous equivalence scale which varies with age in order to capture the effects of household characteristics on family expenditures. Household characteristics include size of the family and its composition (age of family members). Departing from the usual method of specifying a separate equivalence coefficient for each age-sex group and adding these together to get the equivalence scale, the MLBAM follows Forsyth (1960) and specifies equivalent family size as the product of household size and a composition term for each good.

MLBAM also distinguishes between size effects-- the effects on consumption due to the addition of a family member regardless of the type of person (such as the increase in the demand for necessities like food and clothing)-- and composition effects-- the effects on consumption due to the addition of a specific type of family member (like the purchase of a crib for an infant).

To summarize the characteristics of the MLBAM model, MLBAM satisfies the Engel and Cournot aggregation constraints (it can also be constrained locally to satisfy homogeneity and Slutsky symmetry conditions). It relates commodity expenditures to a nonhomogeneous function of total expenditures and household size thereby allowing for economies and diseconomies of scale. In addition, it allows examination of the effect on commodity expenditures of adding a certain type of person to a specifically defined family type. Since such effects may vary according to the characteristics of other household members, MLBAM's measure of the influence of family composition on family expenditures does not strictly belong in to the Engel "class" of equivalence scales. However, it is the authors opinion that trading off these theoretical considerations yields important utilitarian value in answering applied questions regarding the effects of children on family expenditures.

The model is estimated using an iterative Newton-Raphson (maximum likelihood) procedure. Identification of the system is achieved by setting the parameters of one equation equal to zero. Results are thus interpreted as being compared to the omitted category. Expenditures for "other goods" is the excluded equation.

DATA AND PROCEDURES

The data used in this study were collected as part of Statistics Canada's 1982 Survey of Family Expenditures. They include both expenditure and demographic information collected from a random sample of over 10,000 Canadian households. The scope of the study was limited in several respects because Statistics Canada did not release the entire survey for public use. For example, gender of children in a family was not revealed, meaning that the differences in costs and expenditures between male and female children which have been shown to exist (Olson, 1983) could not be examined.

In order to minimize the effects of regional price differences, we limited our analysis to a sample of Prairie (provinces of Alberta, Saskatchewan and Manitoba) families. Our final sample consisted of 758 non-farm, double-headed families with all members present the entire year who did not receive income-tested government assistance in 1982. Mean sample characteristics are given in Table 1.

TABLE 1. Mean Sample Characteristics.

Mean ages:		
Head[1]	41.2 years	
Spouse	39.0 years	
First Child[2]	10.3 years	
Second Child[2]	8.1 years	
Mean family size	3.3	
Mean number of children[3]	2.1	
Median gross family income	$ 38,025	
Median total expenditures	$ 34,757	
Mean expenditures on:		Percent of total income:
Food at home	$3861	10.2
Food away from home	1190	3.1
Shelter	6231	16.4
Clothing	2381	6.3
Transportation	4343	11.4

[1] Head is male in 90% of families.
[2] Where present.
[3] Families with children present.

When defining expenditure categories to be used in this analysis we gave particular attention to two points. First we attempted, when possible to separate categories of spending into adult and child specific commodities or into groups that we believed could be influenced by the presence of children. Thus, we separated clothing expenditures into adult and child specific groups

Secondly, we attempted to remove any element of savings in the form of durable purchases from expenditure categories. The expenditure category reported in this study most influenced by this decision was transportation. Using this definition, purchase of automobiles was netted away from transportation expenditures. Other outlays affected by this definition include expenditures for recreational vehicles and purchase of major home appliances. These outlays were combined into the collective expenditure category, durables.

The dependent variables in the system are budget shares for each of eight spending categories. These categories include (1) food eaten at home, (2) food eaten away from home, (3) shelter (not payments on mortgage principle), (4) transportation, (5) adult clothing, (6) child clothing, (7) durables (vehicle purchase, household furnishings, recreation equipment), and (8) other (household operation, health care, personal care, recreation, education, tobacco and alcohol, gifts, security, & miscellaneous). Independent variables include total expenditures, family size and a transformation of the age of each family member.

From parameter estimates derived from MLBAM we are able to simulate expenditures over the lifecycle. For illustrative purposes we have developed some simulations for an "average" prairie family. The average family was identified by using provincial statistics regarding prairie family economic, fertility and marriage behaviour (See Table 2 for details).

TABLE 2. Average Prairie Family Characteristics.

Age at first marriage (1982):[1]	
Males	25.7 years
Females	23.3 years
Median age at first birth (1982):[2]	24.6 years
Median age at second birth (1982):[2]	27.1 years
Average number of children per family with children (1976):[3]	2.2
Gross income by age of head (1982):[4]	
Age in Years	Income
Under 24	$24,224
25-34	32,397
35-44	40,199
45-54	43,955
55-64	37,260

[1] Source: Statistics Canada, Marriages and Divorces: Vital Statistics, Volume 2, Catalogue # 84205, 1982.

[2] Source: Statistics Canada, Vital Statistics, Catalogue #84-204 and #84-001. These figures are for all of Canada.

[3] Source: Farquhar, C.R. (1982) Handbook of Canadian Consumer Markets, 1982, 2nd Ed., Ottawa: The Conference Board of Canada, p. 47.

[4] Source: Statistics Canada, Income Distribution by Size in Canada, Catalogue # 13207, 1982.

Predicted budget shares are generated for each year with every family member aging accordingly. Total expenditures are assumed to change throughout the family life cycle according to trends observed with respect to family income by age of head for the population in 1982.

Because the oldest child in the sample is 18 years of age, children in the present analysis are assumed to leave home after age 18. Simulations are performed for two child families, since average family size for prairie couples with children is 2.2. Consistent with the population trends, we assume that the first child is born when the mother is 25 and the father is 28 and the second child is born two years later.

As a point of comparison, we also simulate the expenditures of a childless couple with the same demographic characteristics and who marry at the same age as the childed couple. The difference between these two estimates will allow us to examine the effects of children on family expenditures.

RESULTS

Simulations for both childless and two child families were conducted to predict budget shares for the expenditure system. Figures 1-10 present graphical representations of the trends in family spending (budget shares) over the life cycle.

In addition to analysis of budget shares, we were interested in examining elasticities imputed from the estimated model parameters. For illustrative purposes we selected an average point in the family life cycle and derived sample elasticity estimates. Average family's characteristics and elasticity estimates are reported in Tables 3 and 4, respectively for each expenditure category.

Table 3 shows the predicted values for each expenditure category for an average two child family. The 'average' family in the sample reports total expenditures of $31,200, of which 14 percent ($4,337) is allocated to food eaten at home, and 3 percent ($936) is spent on food eaten in restaurants. The figure for shelter expenditures, 19 percent, may seem intuitively low, but it represents spending on shelter that does not include payments toward mortgage principle. Such payments are not considered in the Family Expenditure Survey to be an element of spending, but rather a contribution to the family's assets, or savings.

TABLE 3. Predicted Budget Shares for Two-child Family

FAMILY PROFILE:
Total expenditures: $31,200
Age of father: 39 years
Age of mother: 36 years
Age of first child: 11 years
Age of second child: 8 years

PREDICTED EXPENDITURES:		% of budget
FOOD AT HOME	$ 4337	13.9%
FOOD AWAY FROM HOME	936	3.0
SHELTER	6022	19.3
TRANSPORTATION	2309	7.4
DURABLES	2558	8.2
ADULT CLOTHING	1373	4.4
CHILD CLOTHING	562	1.8
OTHER GOODS/SERVICES	13,104	42.0

The average family in this sample is predicted to spend $2309 per year on transportation, which does not include the purchase of vehicles. Automobile purchase is included in the durables category, which along with household furnishings and appliances, and recreation equipment, makes up about 8 percent of the average family's spending. Adult clothing comprises more than twice the proportion of the budget than child clothing, while the largest portion of total expenditures is allocated toward other goods and services.

Food. Figures 1 and 2 present the effect of changes in food expenditures at home and away, over the life cycle by childless and two-child families. Budget shares of childless couples for both food eaten at and away from home remains fairly constant across the life cycle with about one third of the total food budget being devoted to food eaten away from home. Two-child families record drops in shares of food eaten away in both years that children are born. Not until the last child leaves home does the share level for this category of spending equal that of their childless counterparts. The two-child family devotes approximately one fifth of their total food budget to food eaten away from home. Their expenditures for food eaten away from home are nearly 50 percent greater than that of their childless counterparts. Clearly, households tend to substitute out of food eaten at home and increase food eaten at home in order to meet increasing (family size) demands for food. In sum children cause the total food share to increase by approximately 3 percent.

Table 4 indicates that expenditures for food eaten away from home by an average family constitutes luxury spending (expenditure elasticity > 1). Demand for food eaten at home however, is highly expenditure inelastic or a necessity item. Although expenditures for food eaten at home are positively related to family size, expenditures for food away from home bears a negative relationship with family size, _ceteris paribus_. Results further indicate that small economies to scale exist for expenditures for both food eaten at and away from home.

Clothing. Figures 3 and 4 present the effect of changes in expenditures for adult and child clothing over the life cycle by childless and two-child families. Expenditures by childless couples are fairly constant over the life cycle. Childless couples do record small expenditures (budget shares less than one percent) for children's clothing.

For the two-child family, adult clothing expenditure shares bottom out in the year that the youngest child is two years of age. After that year, spending for adult clothing as a share of total expenditures increases. At approximately the point where the oldest child reaches thirteen years of age, budget share for adult clothing exceeds that of the the share of expenditures devoted by childless couples to adult clothing. This result can be attributed to the fact that purchases of clothing for family members over the age of thirteen are categorized in the FES as adult clothing expenditures.

The share of expenditures for children's clothing peaks for the two-child family when the youngest child reaches about 6 years of age. After that point expenditures for children's clothing gradually diminishes as the youngest child approaches 13 years of age. Beyond age 40 of the adult male, it is necessary to examine the effects of family size on spending for adult clothing to better understand the effects of children on clothing expenditures.

Compared to their childless counterparts, two-child families spend more for all clothing beginning when their oldest child reaches six years of age. Expenditures peak when the oldest child reaches eighteen years of age with the two-child family allocating about two and one half percent greater budget share to clothing purchases than their childless counterparts.

In the early years it does appear that there are some substitutions out of spending for adult clothing in order to meet the increasing demand for child's clothing. Latter such "sacrifices" by parents are more difficult to isolate as children's clothing expenditures commingle with that of their parents.

Table 4 indicates that for the average family, outlays for children's clothing constitutes a necessity expenditure, while adult clothing expenditures a luxury (expenditure elasticity > 1). Given that the oldest child in the average family is eleven years of age and maybe wearing adult size clothing, we observe a positive relationship between family size and both adult and child clothing expenditures. Contrary to previous findings, we find that there are diseconomies of scale associated with clothing expenditures.

Shelter. Figure 5 presents the effect of changes in housing expenditures over the life cycle by childless and two-child families. Given that this category of expenditure _ex_cludes outlays for mortgage principle, it is not surprising to find that budget shares decline over time. Without additional information regarding the propensity of childless versus two-child couples to purchase (versus rent) their living quarters, it is difficult to posit precise causes of the observed differences. Common reasoning would lead the one to posit that the two-child family would own a larger and thus more costly home than their childless counter part. Although this is apparently the trend early in the life cycle, beyond age thirty-nine of the adult male the trend reverses and the two-child family spends a smaller share of total expenditures for housing than do their childless counterparts.

Table 4 indicates that housing is relatively expenditure inelastic, or a necessity outlay. Family size appears negatively related to spending for shelter and the presence of economies of scale is noted.

Transportation. Figure 6 presents the effect of changes in transportation expenditures over the life cycle by childless and two-child families. As was previously discussed, the definition of this expenditure category is different from previous studies in that outlays for the purchase of automobiles is netted from there and added to a new category, durables. Thus, the expenditures in this category pertain primarily to auto repairs, and outlays for other forms of transportation.

Expenditures for the childless couple remain fairly constant over the life cycle. The budget share devoted to transportation by the two-child family is only slightly greater than that of their childless counterparts until the first child approaches sixteen years of age. At that

TABLE 4. Elasticities and Predicted Budget Shares for Average Family.

	Food			Transpor-		Clothing		
	Home	Away	Shelter	tation	Durables	Adult	Child	Other
Budget Shares: Average Family[1]	.14	.03	.19	.07	.08	.04	.02	.42
Expenditure Elasticity:	0.30	1.21	0.80	0.75	1.63	1.12	0.45	1.24
Size Elasticity:	0.53	-0.41	-0.32	0.33	0.20	0.62	1.53	-0.23
Scale[2] Indicator:	0.83 (E)	0.80 (E)	0.48 (E)	1.07 (C)	1.83 (D)	1.74 (D)	1.98 (D)	1.01 (C)

[1] Average Family = Head aged 39, spouse aged 36, oldest child aged 11, youngest child aged 8, total expenditure = $31,200.

[2] E indicates economies of scale, C indicates constant returns to scale, D indicates diseconomies of scale.

Fig.1 BUDGET SHARES: FOOD AT HOME

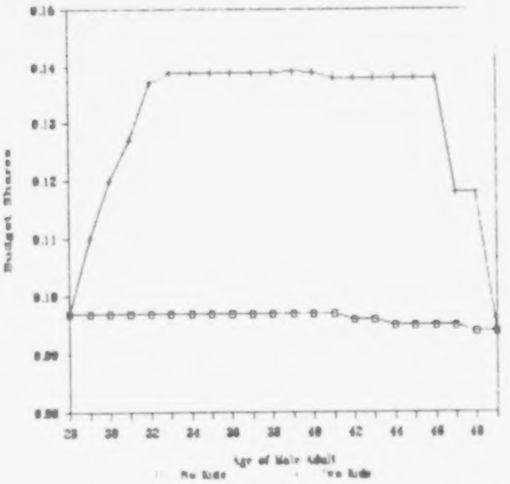


Fig. 3 BUDGET SHARES: ADULT CLOTHING

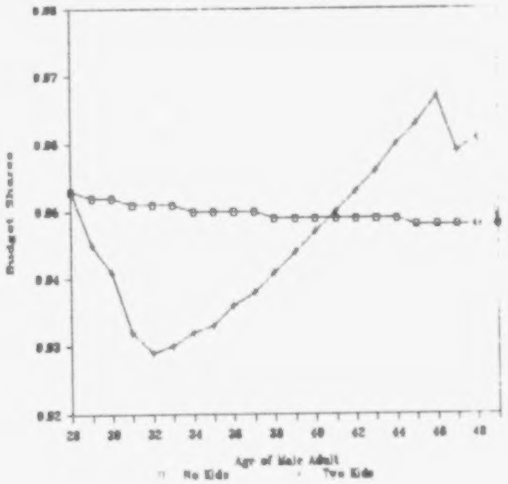


Fig. 2 BUDGET SHARES: FOOD AWAY

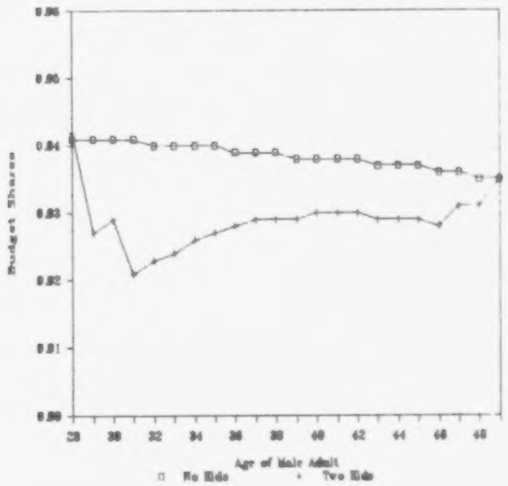


Fig. 4 BUDGET SHARES: CHILD CLOTHING

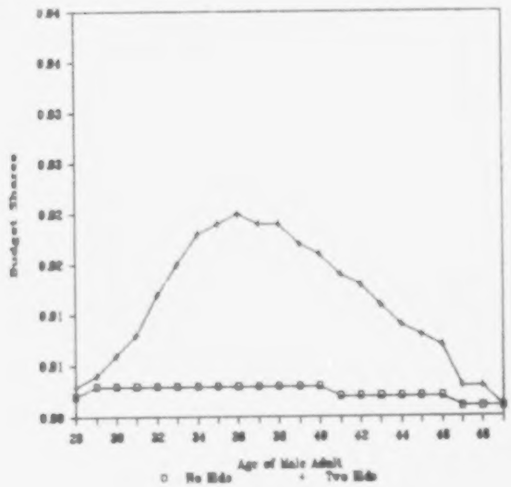


Fig. 5 BUDGET SHARES: HOUSING

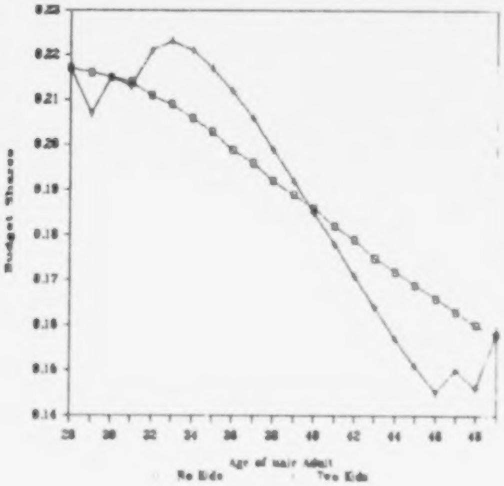


Fig.6 BUDGET SHARES: TRANSPORTATION

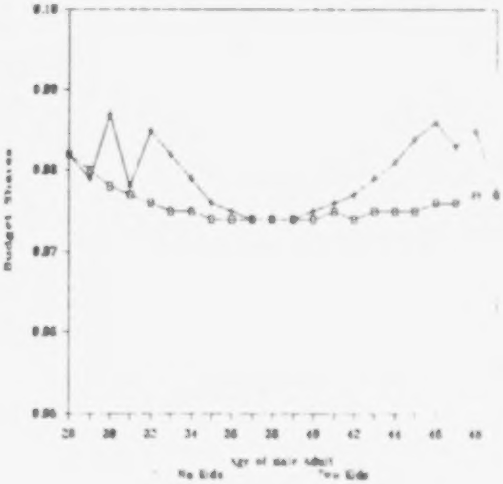
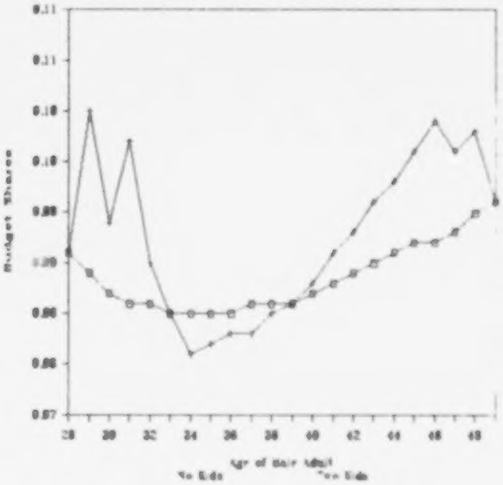


Table 4 indicates that transportation expenditures are necessity outlays and that they increase with family size. Overall, constant returns to scale are indicated. These results compare to a virtual null size effect and diseconomies to scale reported by Tyrrell when elements of durable spending were included in the variable definition.

Durables. Figure 7 presents the effect of changes in durable expenditures over the life cycle by childless and two-child families. As was discussed earlier, the durable category is a composite of expenditures that we have identified as having an element of savings. Previous studies included these outlays as part of other expenditure categories.

Fig. 7 BUDGET SHARES: DURABLES



Childless couples appear to make outlays for durables at a fairly constant share of total expenditures over the life cycle. Peaks in the budget shares for the two-child family occurs in each year where a child is born and at the stage in the life cycle where children reach driving age. One can easily speculate the nature of spending behaviour that would cause these differences.

Table 4 indicates that durables constitute luxury (expenditure elasticity > 1) goods by the average two-child family. A small positive relationship between size and durable outlays is noted. Diseconomies to scale are indicated (scale indicator > 1).

SUMMARY and CAVEATS

The purpose of this paper was to incorporate a flexible functional form of an expenditure model to examine expenditures attributable to the presence of children. Findings indicate not only how family composition influences spending over the life cycle, but also ways in which families make substitutions in consumption to meet those costs.

There are at least two important limitations to the results presented in this study. The first limitation pertains to the use of cross-sectional data to draw inferences about longitudnal behaviour. The FES data were collected in a single time period. We implicitly assume in our findings that couples in their 20's today will behave in 10 years the way 30 year old couples do today. That is we assume away any potential cohort effects. However, given that to date no one has collected detailed expenditure, panel data that would span over any single family lifecycle, consumer expenditure studies with their inherent limitations afford the best insight possible into family spending behaviour.

The next important limitation of this study is the underlying population that we are able to make inferences about. Our sample in this study includes middle- to upper-income families living in the central region of Canada. We intentionally removed any low-income families from the sample that we assumed could be qualified for or recieving income tested social assistance payments. Each province in Canada establishes guidelines for estimated costs to raise children at a poverty level income. Our purpose was to provide guidelines for upper- to middle-income families regarding child rearing costs. At present no such standards have been established in Canada.

Keeping both of these limitations in mind then, the highlights of our results can be summarized as follows. Durables, food eaten (purchased) away from home, and adult clothing all prove to be luxury goods for the two-child family. Economies to scale are noted for food and shelter expenditures. Two-child families appear to substitute out of expenditures for meals eaten away from home, adult clothing and other goods and services in order to meet increased demand due to the presence of children.

REFERENCES

Deaton, A., and Muellbauer, J. (1980). *Economics and Consumer Behavior*. Cambridge: Cambridge University Press.

Espenshade, T.J. (1984). *Investing in Children*. Washington, D.C.: The Urban Institute.

Fedyk, J.M. (1986). *An Application of the Multinomial Logit Budget Allocation Model to the Costs of Raising Children on the Prairies*. Masters Thesis. University of Saskatchewan, College of Home Economics.

Forsyth, F.G. (1960). The relationship between family size and family expenditure. *Royal Statistical Society Journal Series A*, *123*, 367-393.

Friedman, M. (1957). *A Theory of the Consumption Function*. Princeton: Princeton University Press.

Lazear, F.P., Michael, R.T. (1980). Family size and the distribution of real per capita income. *American Economic Review*, *70*, 91-107.

Olson, L. (1983). *Costs of Children*. Toronto: Lexington Books.

Tyrrell, T.J. (1979). *An application of the multinomial logit model to predicting the pattern of food and other household expendtures in the Northeastern United States*. Doctoral dissertation, Cornell University.

Van der Gaag, J., Smolensky, E. (1982). True household equivalence scales and characteristics of the poor in the United States. *Review of Income and Wealth*, *28*, 17-28.

FINANCIAL SECURITY OF DIVORCED WOMEN: ASSETS VERSUS INCOME

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ABSTRACT

The probability of a woman's being awarded principal residence, cash, alimony, or child support was estimated for a sample of 914 randomly selected Ohio divorce cases. Investment in marriage and contentiousness significantly affected awards. Presiding judge had the largest effect. Judges favored awarding residence and child support over cash and alimony.

The financial consequences of divorce are of interest for several reasons. One reason is that since 1977, in each year the number of divorces has been approximately equal to half the number of marriages [5]. Another is that divorce reduces the financial well-being of many women and children by almost half. The final reason is the issue of gender bias in the American legal system. This paper reports initial analyses of the effect of property and asset disposition on the financial security of divorced women in Ohio during 1985. The analysis identifies resources and procedural steps which increase the probability of women's receiving either assets or income in divorce decrees.

The 1983 divorce rate for the U.S. and Ohio was 5.0 per 1000 population, with rates for the three central Ohio counties in this study ranging from 5.5 to 6.4 [9]. This phenomenon is not new. With the exception of a decade from 1948-1958, the U.S. divorce rate rose steadily from 1900 to 1980 [5]. The increase in divorces has been created, in part, by a confluence of three social changes. First, the social sanctions against divorce have been relaxed. In addition, expectations of emotional support from the spouse have risen to a level some believe is unrealistic. Finally, more women have become financially independent [10].

Another reason for interest is the deleterious financial effects of divorce on women and children. The reduced post-divorce income and financial well-being of women and children has been noted by many researchers [3, 1, 4, 14, 8, 2, 11]. In comparing the socioeconomic characteristics of married and divorced women aged 30-44, Mott [8] found that those who were married with husband present had a higher mean family income than all other groups for both blacks and whites. For both racial groups the mean family income for divorced women was just over half that of married women with husband present. According to the Panel Study of Income Dynamics at the University of Michigan, divorce resulted in reduced by income for women in every income category; however, the decrease was greatest (about one-half) for the upper income group. For women from middle income households, income was reduced about one-third, and for lower income women, the reduction was about one-fourth [12].

As a reflection of the effort to eliminate gender bias in laws and of increased acceptance of divorce by society, legislatures changed laws pertaining to divorce and courts began changing their interpretations of those laws during the 1970's. The changes provided for easier dissolution of marriage. Consequently, the process became shorter, less complex, and less costly [1, 14]. Ohio was no exception. Its provision for dissolutions as well as divorces facilitates amicable dissolving of marriage. Dissolution of a marriage requires the parties to write a separation agreement dividing property and specifying alimony, child custody and support, and visitation, and to appear in court to acknowledge their voluntary participation in the action. A divorce action implies a more adversarial stance, with one party initiating the action on one or more of the following grounds: another living spouse, willful absence for one year, adultery, impotency, cruelty, gross neglect of duty, drunkenness, imprisonment, or living apart for one year.

Patterns of Asset and Income Awards

Previous research on divorce decrees has distinguished between assets and income for practical as well as legal reasons. Assets are capital stock; whereas, income refers to a flow of resources. Partially as a result of the inherent differences between capital stocks and flows, the certainty of receipt differs for assets and income. Finally, the moral and legal arguments for entitlement to assets and entitlement to income differ.

Asset awards take the form of real property and cash while income awards are primarily alimony and child support. Most divorces occur among young and lower income couples who have little property. For example, Weitzman [13] found that about one-half of the couples in her study had less than $11,000 in property at the time of divorce. Further, the median value of shared property for low and middle income couples is typically equal to only 25 percent of annual income.

The family home is the most valuable real asset of most couples. The importance of the principal residence varies by income. It's most important for middle income families, and less so for upper income families who typically have many assets and for lower income families who are not likely to own a home. Court records sampled for this study showed a homeownership rate of 43.6 percent in the three central Ohio counties. This compares to 32 percent of divorce records listing a family home as an asset in a 1978 California study by Weitzman [14].

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Disposition of the principal residence may take a number of forms. The residence may be awarded to wife, awarded to husband, or awarded to both. If the residence is awarded to both a sale can be forced and the division of equity stipulated. Weitzman [13] found that a majority of the home equity was awarded to the wife in 46 percent of the cases and was equally divided in another 35 percent of the cases in 1977. In this study, the house was awarded to the wife in 38.4 percent of the cases and to the husband 34.7 percent of the time. Wives not awarded the house also received some benefit from the asset: 10.1 percent of the women were awarded joint ownership; and in 15.3 percent of the cases the house was ordered to be sold and the proceeds divided.

Assets may also be awarded in the form of a cash settlement. Landes [6] found that the number of minor children and duration of marriage were positively associated with cash awards sometimes called lump-sum alimony. In this study, cash was awarded to women in 7.9 percent of the cases.

Weitzman [13] argues that income awards are more valuable than property or one-time cash settlements. Her rationale is that the real wealth of most divorcing couples lies in future income, and continuing income awards capture that wealth. On the other hand, Weitzman [13] believes that many attorneys advise clients to take a property settlement because support payments may be changed and are difficult to collect. Women who divorce in the early years of marriage must rely primarily on alimony and child support for future financial well-being as a result of the marriage. However, they may also be the ones for whom the income support is neglible or nonexistent.

For all women, receipt of an income stream in the form of alimony is a potential award. The basis for alimony awards has changed over time. Alimony is more likely to be short term rather than permanent, and wives with employment skills are not likely to be awarded alimony. In addition, fault is no longer the primary rationale for alimony. Rather, need for support has become a more important consideration. Need has been linked legally to physical and emotional condition, age, presence of young children, and education. Length of marriage, a correlate of contribution to marriage, is another criterion used today. Historically, alimony has been awarded to only a small proportion of women. For example, Weitzman [13] found 17 percent of women were awarded alimony in her 1977 study. In comparison, 9.7 percent were granted alimony in the present study.

If minor children are present, child support is a relevant income award. Amounts awarded for the support of children are likely to be low. In a 1983 New Jersey study, the typical award was a maximum of thirty percent of the father's net income, and a study in Cleveland showed support to be about twenty percent of the father's income [13]. Although amount of support is not included in this analysis, the incidence of child support awards was limited. Child support was decreed in only 51.9 percent of the cases with children under age eighteen.

Sample

Data on divorces in Ohio in 1985 were obtained from county court records in an urban county and two rural counties. A ten percent random sample of cases filed was drawn in the urban county, resulting in 390 decree-of-divorce and 280 dissolution agreement records, of which 661 were usable records. In the rural counties the sample size equaled fifty percent of all filings. Of the 300 cases, 47 were not usable. Divorce and dissolution cases were not filed separately in the rural counties; thus, the samples were not drawn separately.

Divorce records contained names and addresses of husband and wife; names and ages of children; name(s) of attorney(s) for husband and/or wife; name of judge; dates of marriage, filing and decree; all documents filed in the case such as motions and the separation agreement; and decree. The decree specified income and asset awards. The records did not contain information on income, age, education, occupation, or employment status.

The average length of marriage was five years; the median length was 8.19 years. Divorcing couples had an average of two children and a median of 1.7.

Wives were represented by attorneys in 73 percent of the cases. Wives were granted the divorce 38.9 percent of the time; husbands were granted the divorce in 12.7 percent of the cases. The remainder of the cases were dissolutions in which the divorce was granted to both. Case records were an average of 16 pages in length, with a median of 23.4 pages.

The 914 cases in the sample, of which 72.3 percent were from an urban county, were heard by twelve judges. Six of the judges heard only 3.4 percent of the cases; these six judges were pooled to form a control group. The other six judges each heard between 10.6 and 22.6 percent of the cases.

Variables

Two indicators of asset awards and two indicators of income awards were constructed from data in the court records. The asset indicators were disposition of residence and cash settlement. If the couple owned at least one residence the disposition of the principal residence upon divorce was included in the analysis. The residence could have been: 1) sold and the net proceeds divided, 2) awarded to the wife, 3) awarded to the husband, 4) awarded to both, 5) undecided, or 6) other. The decrees in several cases postponed the decision about disposition of the house; these were coded "undecided." The decrees in several cases stated that each spouse was to retain current ownership; these were coded "other." For this analysis residence award was coded zero if the man received the residence; otherwise it was coded one. Cases coded "undecided" or "other" were omitted from the analysis of residence award. If the divorce decree awarded cash to the woman immediately, rather than periodically, cash settlement was coded one; otherwise it was coded zero.

The indicators of income awarded were alimony and child support. If the divorce decree awarded alimony to the woman alimony award was coded one. If the decree awarded alimony to the husband or awarded no alimony, alimony award was coded zero. If the family had children and the divorce decree awarded child support to the woman, child support award was coded one. If the decree awarded child support to the husband or no support, child support award was coded zero. If the decree failed to mention either alimony or child support the authors assumed the woman was awarded neither.

The probability of receiving assets and income was expected to increase with investment in the marriage. The court records contained two measures of investment in the marriage -- length of marriage and number of children. Length of marriage was defined as year of filing for divorce minus year of marriage. Number of children was defined as number of minor boys plus number of minor girls. In Ohio children are legally emancipated at eighteen.

Contentiousness of the proceedings was expected to affect the award of assets and income. A higher probability of receiving income or assets was expected to accompany dissolutions, considered to be more amicable than divorces. However, when the proceedings were not amicable, as was assumed for divorces, the probability of a woman's being awarded income or assets was expected to increase with contentiousness. The number of pages in the court record was used as a measure of contentiousness, with longer records considered more contentious.

Guilt also was expected to influence the award of assets and income. Women judged less guilty than their spouses or not guilty were expected to have a higher probability of receiving assets and income. The court records stated to whom the divorce was granted. If the woman were granted the divorce rather than her spouse, the researchers assumed she was the less guilty party. In Ohio dissolution decrees are granted to both parties, and can be considered no fault proceedings.

The more resources the woman used to obtain the decree the greater her probability of being awarded assets and income was expected to be. The court records stated whether the woman was represented by an attorney. The researchers expected more women represented by an attorney to be awarded assets and income.

Residential location and judge also were used in the analyses to control for social mores and legal resources and procedures. The rural counties were aggregated and compared to the urban county. Traditional mores were thought to be more prevalent in the rural counties. Six judges who heard most of the cases were compared with a pool of judges who each heard relatively few cases. Judges are responsible for enforcement of divorce laws; therefore, controlling for judge was a means of controlling for legal interpretation and enforcement.

Analysis

Linear probability functions were estimated for residence award, cash award, alimony award, and child support award using the General Linear Models (GLM) procedure in SAS. All cases in the sample were used to estimate the functions for alimony award and cash settlement. Cases involving minor children were used to estimate the child support award function. Cases involving disposition of an owned residence were used to estimate the residence award function. Probability of award was a function of woman's legal representation, length of marriage, number of children, number of pages in court record, woman awarded divorce, both parties awarded divorce, residential location, and judges A, B, C, D, E, F.

The coefficients in ordinary least squares (OLS) linear probability functions are inefficient [7]. Although a weighted least squares (WLS) procedure can improve efficiency, both OLS and WLS procedures result in cases for which the expected value of the dependent variable lies outside the range 0-1. The inefficiency does not affect significance tests provided the explanatory variables have a multivariate normal distribution.

Results

Only variables significant at the .1 level or higher are discussed. The discussion focuses on variables which significantly affect the probability of receiving the type of award and the direction of the effect, rather than the size of the effect. First the asset equations are discussed, then the income equations. Finally consistency of effects within award type and across award type is examined. Inconsistency is interpreted as evidence of a tradeoff between awards.

Length of marriage and woman granted divorce significantly increased the probability of the court's awarding the woman a portion of the family's investment in a residence (see Table 1). Each year of marriage increased the probability of awarding the woman a share of residential equity by .57 percent. When the woman was granted the divorce, the court was 16.9 percent more likely to also award her a share of residential equity. Although none of the presiding judges was significantly different from the pool, two of them, judges A and C, had the largest effects. They were 28.3 and 29.4 percent more likely than the pool to award the woman a share of equity. These results were consistent with the expectation that investment in the marriage and contentiousness of the proceedings would increase probability of receipt of assets. Although the number of significant variables was surprisingly low, all signs were in the expected direction.

Table 1. Probability of Woman Receiving Portion of Investment in Residence Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.0524	.0617
Length of Marriage	.0057	.0029
Number of Minor Children	.0272	.0213
Number of Pages in Record	.0006	.0011
Divorce Recipient		
Woman	.1690	.0927
Both Parties	.0523	.0936
Rural County	.1931	.2505
Presiding Judge		
A	.2834	.2152
B	.1461	.2186
C	.2940	.2164
D	.0746	.2231
E	.1748	.1549
F	.1029	.1498
Intercept	.1775	.2346

n = 383 cases involving the disposition of a principal residence

R Square = .0775

$F_{(13,369)} = 2.39$

Length of marriage, and number of pages in the record significantly increased the probability of the woman's receiving a cash settlement (see Table 2). Each year of marriage increased the probability of a court's awarding the woman a cash settlement by .67 percent. Each page in the court record increased the probability .09 percent. However, the more children in the family the less likely a woman was to receive a cash settlement. Each child decreased by 1.6 percent the probability of a court's awarding the woman a cash settlement. Again, presiding judges had the largest effects. Judges C and D were 5.2 and 4.2 percent less likely than the pool to award the woman a cash settlement. In this equation the results for investment in the marriage and contentiousness were inconsistent. For both concepts one of the indicators had a positive effect and one negative.

Table 2. Probability of Woman Receiving Cash Settlement Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.0049	.0231
Length of Marriage	.0067	.0012
Number of Minor Children	-.0164	.0085
Number of Pages in Record	.0009	.0003
Divorce Recipient		
Woman	-.0184	.0316
Both Parties	.0319	.0294
Rural County	-.0275	.1004
Presiding Judge		
A	-.0160	.0869
B	-.0110	.0877
C	-.0518	.0871
D	-.0415	.0885
E	.0085	.0605
F	-.0032	.0588
Intercept	.0345	.0903

n = 892 cases

R Square = .0536

$F_{(13,878)} = 3.83$

Length of marriage and number of pages in the record significantly increased the probability of receiving alimony (see Table 3). Each year of marriage increased by .85 percent the probability a court will award the woman alimony. Each page in the record increased the probability .08 percent. Number of children and divorce granted to wife also increased probability of receipt. As with the asset awards, presiding judges had the largest effects on alimony awards. Judges A, C and E had the largest effects. Judge C was 11.1 percent less likely than the pool to award alimony. Judges A and E were 9.2 and 9.0 percent less likely. Both the significance and sign of the variables supported the expectation that investment in the marriage and contentiousness of the proceedings would increase the probability of award of alimony. Fewer than ten percent of the cases in the sample contained an award for alimony, so the small number of significant variables was not surprising.

Table 3. Probability of Woman Receiving Alimony Award in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	-.0018	.0247
Length of Marriage	.0085	.0013
Number of Minor Children	.0109	.0091
Number of Pages in Record	.0008	.0004
Divorce Recipient		
Woman	.0237	.0338
Both Parties	-.0132	.0315
Rural County	-.0125	.1074
Presiding Judge		
A	-.0924	.0929
B	-.0594	.0939
C	-.1114	.0931
D	-.1002	.0947
E	-.0901	.0647
F	-.0681	.0629
Intercept	.0844	.0966

n = 892 cases

R Square = .0773

$F_{(13,878)} = 5.66$

An attorney representing the wife, divorce granted to both parties (a dissolution), and Judge E presiding significantly increased the probability of receiving a child support award (see Table 4). A woman represented by an attorney was 16.5 percent more likely to be awarded child support. When both parties were granted the divorce the woman was 14 percent more likely to be awarded child support. Presiding Judge E was 23 percent more likely than the pool of judges to award child support.

Table 4. Probability of Woman With Minor Children Receiving Child Support Award Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.1653	.0449
Length of Marriage	-.0053	.0026
Number of Minor Children	.0265	.0189
Number of Pages in Record	.0002	.0005
Divorce Recipient		
Woman	.0731	.0624
Both Parties	.1399	.0605
Rural County	-.1514	.1851
Presiding Judge		
A	.0526	.1507
B	.1222	.1522
C	.0490	.1509
D	.0515	.1555
E	.2314	.1235
F	.1489	.1211
Intercept	.5654	.1647

n = 452 cases involving minor children

R Square = .0758

$F_{(13,438)} = 2.76$

While all six judges in the analysis were more likely to sign a decree containing an award for child support than the omitted pool of judges, Judge E more consistently signed such decrees. On the other hand, the longer the marriage the less likely a woman was to receive a child support award. Each year of marriage reduced by .5 percent the probability of the court awarding the woman child support. This result was counter to expectations. Age of minor children was not controlled and the longer the marriage the older the children are likely to be. Still, minor children require support, and these results indicate that as they age and cost more their fathers are less likely to contribute to their rearing in the form of child support.

Length of marriage was the only variable which significantly affected the probability of being awarded both forms of assets and both forms of income; however, in each equation one measure of investment in the marriage and one measure of contentiousness were significant. Also, in each equation a presiding judge had the largest effect. Also, as a rule, the judges were more likely than the pool to sign decrees with one type of asset or income and less likely than the pool to sign decrees with the other type of asset or income. The opposite signs within assets or income for the set of presiding judge variables indicate that any tradeoffs are within assets or income rather than between assets and income.

Distinctions drawn by previous researchers between asset and income awards were based upon their inherent qualities as stocks and flows, the certainty of receipt and the legal basis to entitlement. The expected patterns of exchange between the types of awards were not found. Rather, the results indicate that the trade offs are made within assets or income. If this be the case, then asset/income distinctions in analyses of divorce awards are insufficient. Classifications of assets and income, heretofore ignored, acquire salience. Yet to be answered is the question of the contribution these awards make to financial security.

REFERENCES

1. Bahr, S.J. "Marital Dissolution Laws: Impact of Recent Changes for Women." Journal of Family Issues, 4 (3), 455-466, 1983.

2. Cherlin, A. "Employment, Income and Family Life: The Case of Marital Dissolution." In Women's Changing Roles at Home and on the Job (pp. 157-178). Proceedings of a Conference on the National Longitudinal Survey of Mature Women. Special Report No. 26, 1978.

3. Duncan, G.J. The Most Important-And Neglected--Consumer Choices. Proceedings of the Annual Conference of The American Council on Consumer Interests, 106-110, 1985.

4. Espenshade, T.J. "The Economic Consequences of Divorce." Journal of Marriage and the Family, 41, 615-625, 1979.

5. Information Please Almanac, 1987. 40th Ed. Boston: Houghton Mifflin Co., 1987.

6. Landes, E.M. "Economics of Alimony." Journal of Legal Studies, 7 (1), 35-63, 1978.

7. Maddala, G.S. Limited-Dependent and Qualitative Variables in Econometrics. (Cambridge, England: Cambridge University Press), p. 15-16, 1983.

8. Mott, F.L. The Socioeconomic Status of Households Headed by Women. (R & D Monograph 72). Washington, D.C.: Employment and Traning Administration, 1979.

9. Ohio Department of Health, Statistical Analysis Unit Division of Data Services, Report of Vital Statistics For Ohio 1983. Columubs, Ohio State Department of Health.

10. Prager, S. "Sharing Principles and the Future of Marital Property." UCLA Law Review, 25 (1), 12-22, 1977.

11. Shaw, L.B. "Economic Consequences of Marital Disruptiond." In Women's Changing Roles at Home and on the Job. Proceedings of a Conferences on the National Longitudinal Survey of Mature Women. Special Report No. 26, 181-199, 1978.

12. Weiss, R.S. "The Impact of Marital Dissolution on Income and Consumption in Single-parent Households." Journal of Marriage and the Family, 46, 115-127, 1984.

13. Weitzman, L.J. The Divorce Revolution: The Unexpected Social and Economic Consequences for Women and Children in America. New York: The Free Press, 1985.

14. Weitzman, L.J. "The Economics of Divorce: Social and Economic Consequences of Property, Alimony and Child Support Awards." UCLA Law Review, 28, 1181-1268, 1981.

CHANGES IN ECONOMIC STATUS SURROUNDING THE DEATH OF A SPOUSE

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ABSTRACT

The death of a spouse is a common life transition for middle aged and elderly couples. Yet, the relationship between this fairly prevalent life transition and changes in economic status is not well understood. In this paper data from the Panel Study of Income Dynamics were used to examine changes in economic well-being near the time of a spouse's death. On average, in the first year after the widowhood, household income fell to 61 percent of what it had been in the year prior to the death. The analysis also revealed substantial heterogeneity in the economic experiences of households where a spouse was about to die. In particular during the pre-widowhood period, households where the to-be-deceased spouse reported a limiting health condition had lower income levels than otherwise comparable households where no limiting health condition was reported.

INTRODUCTION

Modern societies present people with a multitude of choices regarding family formation and dissolution. Over the course of their adult lives, women and men may choose to marry, have children, divorce, and/or remarry. There is mounting evidence that these decisions about living arrangements have direct implications for an individual's economic well-being. For example, recent research shows that marriage generally enhances an individual's financial position while a divorce usually reduces someone's economic resources, especially for women [3,4]. Such findings support the theoretical argument that economic well-being and decisions regarding living arrangements are endogenously determined [5]. Yet, there is one very prevalent type of change in living arrangements that does not fit in this choice framework, but which nonetheless has the potential to impact substantially on an individual's economic well-being. This exogenous change in living arrangements occurs when a spouse dies.

The death of a spouse is a common life transition for middle-aged and elderly couples. Furthermore, as the age structure of the United States continues to shift from the young to the old, from a societal perspective, widowhood will become a more common life transition. In 1960, approximately 12 percent of all households in this country were headed by a widowed individual. It has been projected that by 1990, the figure will be 17 percent [10]. Despite the increasing prevalence of this demographic transition, the relationship between widowhood and changes in economic circumstances is not well understood.

On the one hand, it seems that the death of a spouse should precipitate a significant decline in economic status for the survivor. When a spouse dies, the household loses the deceased individual's market earnings (or possibly his/her pension benefits if the deceased was retired) and the income from any assets that have been bequeathed to someone outside of the immediate household. This loss may be especially great for surviving widows (who outnumber widowers by approximately 5 to 1). Historically, women have had lower levels of market earnings than men and thus in many instances, once the husband is gone so is the household's primary source of income.

On the other hand, it can be argued that the economic changes wrought by the death of a spouse could be minimal. While the death may reduce a household's financial resources, at the same time, basic needs also drop because household size has been reduced by one. In addition, for marriages that survive into the later stages of the life span, widowhood becomes an inevitable, and generally foreseeable, household composition change. The knowledge of this impending change may motivate couples to engage in financial planning that would soften the negative economic consequences of widowhood. It is also likely that the recent growth in social programs targeted at the aged ameliorate any decline in financial circumstances associated with a spouse's death.

Most of the research that has examined the relationship between widowhood and economic well-being shows that on balance there is a net loss in economic security following the death of a spouse [7,8,9,14]. Yet, there also appears to be a wide variability in the financial changes experienced by newly-widowed individuals. Why is it that some survive this traumatic event with only a small drop in economic resources while others have the misfortune of experiencing a severe decline in economic well-being?

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HETEROGENEITY OF THE DEATH PROCESS

To fully understand how household economic status is impacted by the death of a spouse, one should view death as a temporal process. This process is short and unexpected for some (e.g., an individual who dies in an automobile accident), while it is drawn out and generally anticipated for others (e.g., an individual who dies after a three-year bout with cancer). In the former situation, it is likely that the economic changes will be timed close to the death. Presumably in households where a spouse dies suddenly a household's pre-widowhood financial situation would parallel that of other intact-couple households that were not about to experience a death. Then, immediately following the widowhood event their financial situation would deteriorate because of the loss of the deceased individual's economic contributions.

In contrast, the scenario may be quite different for those families where the spouse dies after a lengthy period of illness. Rather than experiencing an abrupt change in economic circumstances, these households are likely to see only a moderate decline in their financial situation at the time of the death. There are two reasons why fluctuations in economic well-being near the time of the death should be softened for this group. First, if the soon-to-be-deceased spouse has an illness that is relatively long-lived and physically debilitating, the household has probably already experienced some decline in economic well-being over the course of the illness. In the years prior to the death, assets may be liquidated to cover medical expenses. Also, the healthy spouse may cut back on market work in order to provide care for the soon-to-be-deceased partner. In essence, for these households a large portion of the decline in economic well-being takes place in the years before the death.

Second, if a spouse experiences an extended period of ill health, the couple may become sensitized to the impending death and they may take actions to minimize its economic impact. For example, the couple may choose a retirement plan where the benefits are low but survivorship rights to the pension are guaranteed (i.e., the surviving spouse, although not the primary pension beneficiary, continues to receive the pension income after the other spouse dies). Essentially, limiting health conditions may motivate couples to engage in more financial planning than they have in the past.

In sum, to assess the change in a household's financial circumstances properly, one should control for the heterogeneity of the death process. It is our contention that the economic impact of this particular family composition change varies by whether or not the death was preceded by a long illness. If the death is sudden, the change in economic well-being attributable to the death will occur in the one or two years after the spouse dies. However, if the death is the final outcome of a lengthy illness, then the estimation of the change in economic status attributable to the death may only be captured by taking a more long-run picture. Specifically, to estimate the decline in economic status for these latter households, one may need to examine changes in their financial circumstances several years before the actual death.

THE DATA

An initial evaluation of whether limiting health conditions prior to a widowhood affect changes in family economic well-being near the death of a spouse requires a longitudinal analysis of household-level panel data. Only with such data can we properly isolate the changes in economic status surrounding a spouse's death.[4] The data for the present analyses come from the 1983 release of the Panel Study of Income Dynamics (PSID). The PSID was chosen for this work because it is the only panel study that allows a researcher to examine the economic situations of a nationally representative sample of households for several years both before and after a spouse dies.[5]

To gain an understanding of how the possible heterogeneity of the death process impacts on the economic status of the household, it is important to begin at the descriptive level. Here the analysis begins by tracking two household types. The first group consists of married-couple households where one spouse dies during the period of analysis (subsequently referred to as the widowed households). The second group consists of married-couple households that remain intact throughout the period (subsequently referred to as the intact households).

Widowed households had to meet three criteria to be included in the sample. First, each household had to have experienced the death of the husband. Wives' deaths have been excluded because critical data on the existence of limiting health conditions is not collected each year for wives in the PSID. Second, the death had to occur between 1969 and 1981. The 1969 to 1981 time period was selected because in the 1983 release of the PSID data, these are the years for which one can calculate household economic status one year prior to the death and one year after the death. Third, the surviving spouse (i.e., the widow) must not have remarried during the follow-up period. There are 298 households where the husband died between 1969 and 1981 in the PSID. Of these 298, there are 13 widows who remarry, leaving 285 widowed households for the current analysis.

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[4] See Zick and Smith [14] for a detailed discussion of this point.

[5] Sampling widowed households from the PSID does have one potential source of bias which is currently common to almost all panel data sets. Only those noninstitutionalized widowed individuals who were still alive and agreed to be interviewed in 1983 are included in the sample. Since surviving spouses have a higher probability of dying shortly after their spouse's death than do their married and single counterparts, the PSID sample of widows may be atypical (Helsing et al., 1981). By using the PSID sampling weights (which correct for unequal probabilities of selection into the sample and differential response rates), we partially correct for this possible mortality bias.

A sample of 1701 intact households has also been drawn from the PSID. Each household in this group is at risk of experiencing the death of a spouse. Thus, by examining the economic circumstances of the intact households over the same period of time, it is possible to establish a baseline estimate of changes in economic well-being against which the changing financial circumstances of the widowed sample can be compared.

Prior to conducting the descriptive analyses, the intact households are matched to the widowed households to avoid inappropriately attributing life cycle changes in economic well-being to marital status.[6] The matching process involves several steps. First, the intact households are randomly assigned to a "year of widowhood." Second, the distribution of the year of widowhood and age of the surviving spouse at the time of the death are ascertained for the widowed households. Finally, the continuously-married households are weighted so that their age and year of widowhood distributions are comparable to the distributions for the widows.

DESCRIPTIVE ANALYSES

To assess the extent to which economic well-being differs between the two household types, we begin by examining mean household income for each group in the year immediately preceding the death (i.e., year t-1 and the year immediately following the death (i.e., year t+1).[7]

The definitions for all of the variables used in the analyses that follow appear in Table 1. The means and standard deviations for household income and income-to-needs ratios for both year t-1 and year t+1 appear in Table 2. The interpretation of the income-to-needs ratio is straightforward [12]. A household with a ratio of one has exactly enough income to meet its basic food, clothing, and shelter needs. In contrast, a household with a ratio of 4.5 has four-and-one-half as much income as it would take to meet its basic needs.

TABLE 1. Variable Definitions

Variable	Definition
WIDOW_t	Dummy Variable; 1 = household where the husband dies in year t 0 = continuously-married household
$\mathrm{DISABILITY}_{t-i}$	Dummy Variable; 1 = husband reported a limiting health condition at least once between t-i and t (i=1 or 5) 0 = husband reports no limiting health condition between t-i and t (i=1 or 5)
INCOME_{t-i}	Household income in year t-i (i=1 or 5) measured in 1982 dollars
$\mathrm{INTRENT}_{t-i}$	Proportion of household income derived from interest earnings and rent in year t-i (i=1 or 5) measured in 1982 dollars
$\mathrm{PENSION}_{t-i}$	Proportion of household income derived from private pension sources in year t-i (i=1 or 5) measured in 1982 dollars
$\mathrm{SSECURITY}_{t-i}$	Proportion of household income derived from Social Security in year t-i (t=1 or 5) measured in 1982 dollars
RETIRE_t	Dummy Variable; 1 = if the household head retires between t-1 and t+1 0 = if the household head does not retire between t-1 and t+1
PRERETIRE	Dummy Variable; 1 = if the household head retires between t-5 and t 0 = if the household head does not retire between t-5 and t
POSTRETIRE	Dummy Variable; 1 = if the household head retires between t and t+5 0 = if the household head does not retire between t and t+5
$\mathrm{I/NEEDS}_{t+i}$	Ratio of household income to basic family needs in year t+i (i= -5, -1, 1 or 5)
$\mathrm{AGELT50}_t$	Dummy Variable; 1 = head of household was less than 50 in year t 0 = otherwise
AGE5062	Dummy Variable; 1 = head of household was age 50 to 62 in year t 0 = otherwise
AGEGT62	Dummy Variable; 1 = head of household was over age 62 in year t 0 = otherwise
$\mathrm{WIDYEAR}_t$	Calendar year of the widowhood. In the t-1 to t+1 analysis, WIDYEAR = 69 to 81. In the t-5 to t+5 analysis, WIDYEAR = 72 to 77.

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[6] For instance, it is quite likely that widowed households will be headed by an individual who is older than the head of an average continuously-married household. Furthermore, households headed by older individuals have less income than households headed by younger individuals. If the data are not weighted to correct for this age distribution difference, then we would run the risk of overestimating the difference in income between the two groups that can be attributed to marital status.

[7] Information on the household's economic status for year t is not used here because the data for this year would reflect the economic contributions of the deceased spouse for the months prior to the death. Thus, a "clean" measure of the change in financial circumstances at the time of a spouse's death can best be gleaned by looking at the difference between economic resources in t+1 and t-1.

The information presented in Table 2 shows that while intact couples on average, experienced a slight drop in income between t-1 and t+1, new widows experienced more than an $8,000 decline in income on average. Similarly, although the mean income-to-needs ratio drops slightly between t-1 and t+1 for the intact households, the decline is much greater for the widowed households. These figures support past work which shows on average, the decline in economic resources at the time of a husband's death is quite severe [2,7,14].

TABLE 2 Mean Household Income and Income-to-Needs at t-1 and t+1 by Household Type (standard deviations in parentheses)

Sample	N	$INCOME_{t-1}$	$I/NEEDS_{t-1}$	$INCOME_{t+1}$	$I/NEEDS_{t+1}$
All Intact Households	1701	$27,592 ($21,324)	3.17 (2.48)	$27,025 ($21,608)	3.16 (2.48)
All Widowed Households	285	$20,940 ($15,385)	2.36 (1.64)	$12,843 ($9,424)	2.00 (1.30)
Intact--No Health Limitations	1360	$30,916 ($22,298)	3.46 (2.56)	$30,244 ($23,106)	3.42 (2.65)
Intact--Health Limitations	341	$18,357 ($12,193)	2.25 (1.48)	$19,341 ($12,916)	2.41 (1.58)
Widowed--No Health Limitations	125	$24,526 ($16,464)	2.73 (1.60)	$13,690 ($9,727)	2.10 (1.29)
Widowed--Health Limitations	160	$17,648 ($13,887)	2.03 (1.65)	$12,334 ($9,530)	1.93 (1.37)

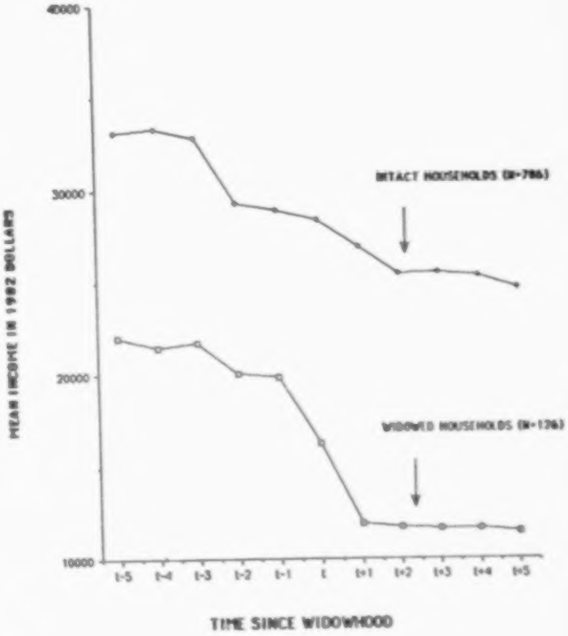
However, the picture is somewhat altered if we look at the change in economic well-being for two widowed-household sub-groups; one group where the husband reported having some sort of limiting health condition in the year prior to his death and the other group where the husband reported no limiting health conditions in the year prior to his death. The statistics for these two sub-groups also appear in Table 2.

Two salient features about the economic resources of these sub-groups are readily apparent. First, households where husbands reported no health limitation have a higher mean income and income-to-needs ratio in the year prior to the widowhood than do the households where husbands reported some limiting condition. This difference is even greater for the intact couple sub-groups that have also been partitioned on the basis of the husband's reported health limitations. Second, between t-1 and t+1, the widowed households with previously healthy spouses experience greater declines in income and income-to-needs on average, than did their widowed counterparts with health limitations. This difference in the change in economic circumstances for the two widowed sub-groups is made even more striking if one looks at what happens to the economic status of intact couples during this time. Indeed, the sample where the husband reported one or more health limitations experienced increases in economic resources during the same period of analysis. Such evidence is supportive of our hypothesis that the presence or absence of spells of prior illness affect the change in economic status that a household experiences at the time of a spouse's death.

To further examine the changes in economic well-being that occur during the process of widowhood, the period of analysis is now expanded to include the five years immediately prior to the death and the five years immediately following the death. It is important to note that while this expanded time horizon provides more information it is not without certain costs. To obtain this eleven-year sample using the PSID, the years of widowhood must be restricted to 1972-1977, inclusive. Thus, the sample of widows and the matching sample of intact couples are reduced to 126 and 786 households, respectively.

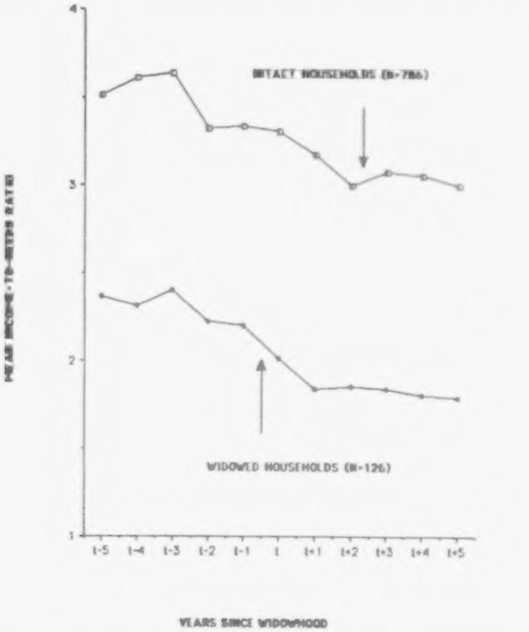
The plots of the mean income paths (measured in constant 1982 dollars) for the entire widowed and intact samples appear in Figures 1. The plots of the mean income-to-needs ratios for the same samples appear in Figure 2. The two figures paint a strikingly similar picture of changing economic resources over the eleven-year period.

FIGURE 1. ELEVEN-YEAR MEAN INCOME PATH



Perhaps the most noteworthy information contained in these figures is that even as far back as five years, the average household that was to experience a death has a dramatically different economic situation than the average household where no death was to take place. Previous widowhood research has suggested that poorer households are more likely to have a spouse die than are richer households [11]. These data support this hypothesis. Indeed, the data show that the pre-widowhood income differences between intact households and widowed households exist over an extended period of time.

FIGURE 2. ELEVEN-YEAR MEAN INCOME-TO-NEEDS PATH

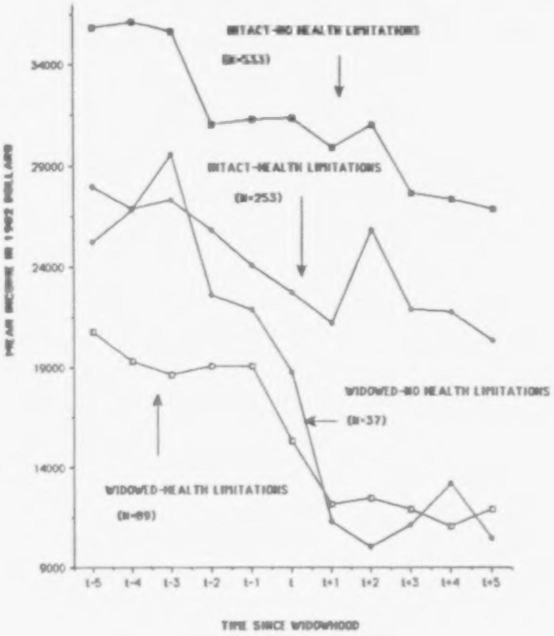


From t-5 to t+5, the economic status of intact-couple households declines moderately. Most of this decline is probably attributable to their changing labor supply patterns as they approach retirement. With the matching weights in place, 24 percent of the intact-couple sample has a husband between the ages of 50 and 62 in year t, and 66 percent of the sample has a husband over age 62 in year t. For these households, it is quite likely that one or both of the spouses will retire during the eleven-year period of analysis. Thus, it is not surprising that we observe some moderate decline in the economic well-being of the average household in this group.

For widowed households there is a gradual decline in economic status between t-5 and t-1. As in the intact-couple sample, some of this decline may be due to retirement. The rate of decline in economic status increases markedly between t-1 and t+1, and then finally, mean economic status appears to stabilize somewhat at a new, lower level between t+1 and t+5.

At this point the samples are stratified into four groups based on whether the husband ever reported a health limitation during the five-year per-widowhood period. The plots for the mean income and income-to-needs ratios for these sub-samples appear in Figures 3 and 4. Not surprisingly, the intact couples who report no health problems begin the period with the most income and they also fare the best over the eleven years on average. This group is followed by the intact households where the husband reports having one or more health limitations, the widowed households that report no health problems, and finally, the widowed households that report one or more health limitations.

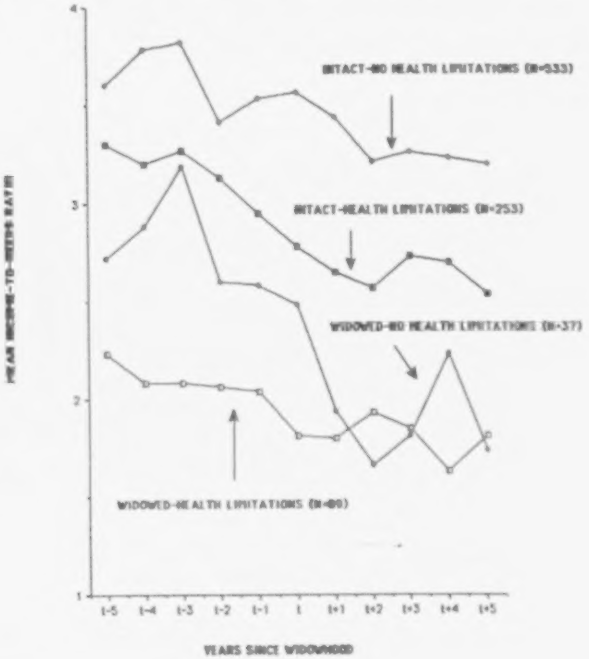
FIGURE 3. ELEVEN-YEAR MEAN INCOME PATH BY HEALTH STATUS



ESTIMATING THE IMPACT OF HEALTH STATUS AND THE TRANSITION TO WIDOWHOOD ON CHANGES IN HOUSEHOLD ECONOMIC WELL-BEING

The descriptive data from Table 2 and Figures 1 through 4 show that the economic situations of widowed individuals are generally worse than those of otherwise comparable intact couples. Furthermore, assessments of the economic experiences of the widowed vary by the existence of prior limiting health conditions and the period of time through which the households are followed. It is hypothesized that a household is less likely to experience a dramatic decline in economic well-being at the time of a death if the spouse who died had experienced previous health problems. To test this hypothesis, a multivariate model of household structure and change in economic well-being is specified and estimated using the PSID data.

FIGURE 4. ELEVEN-YEAR MEAN INCOME-TO-NEEDS PATH



In the model, the dependent variable is the change in household income-to-needs between t-i and t+i (where i=1,5). For the purpose of this analysis, change in a household's income-to-needs ratio is a better indicator of change in economic status than is change in household income. Earlier it was noted that while the death of a spouse reduces household income, it also simultaneously reduces basic household needs. Thus, the net impact of the death of a spouse will be better estimated if change in a household's income-to-needs ratio is the dependent variable.

Change in income-to-needs over time is posited to be a function of both the death of a spouse and prior health limitations. Furthermore, the impact of prior health limitations is hypothesized to vary between intact households and widowed households. Thus, the basic model specification is an interactive one where a dummy variable that identifies reported health limitations of the husband and another dummy variable that identifies if the husband dies, are interacted as well as entered directly in the equation. It is posited that widowed households will experience a decline in income-to-needs over the period of analysis. However, this decline should be smaller for those households where the husband reported one or more health limitations prior to his death, ceteris paribus.

There are several other factors in addition to the death of a spouse and reported health limitations, that may affect changes in household economic well-being and these factors must also be controlled for in the estimating equation. First, the equation must control for retirement. Earlier it was noted that a large portion of the couples in these samples are in the age range where they are likely to be retiring from the labor force. Retirement usually precipitates a decline in financial circumstances for the household [1]. In this model, retirement will be measured by a dummy variable, that takes on a value of one if the household head retires during the period of analysis, zero otherwise.[8] It is hypothesized that the estimated coefficient associated with this variable will be negative, all other variables held constant.

Second, initial income may affect the change in economic well-being experienced by the household. In theory, a household's current income is composed of two parts. The first component is it's "permanent" income. This is the income the household expects to have each year over the life cycle on average. The second component is "transitory" income. Transitory income is the difference between the permanent component and current income. If permanent income is proxied by the average income in the sample, then households with higher than average initial income levels have a positive transitory component. Over time, these households should experience a negative change in economic well-being, all other things constant. In contrast, households with lower than average initial incomes have a negative transitory component. It is anticipated that these households would see a positive change in income during the period of analysis. Thus, it is anticipated that the estimated coefficient on initial income will be negative, ceteris paribus.[9]

Third, it is hypothesized that the proportion of a household's income that comes from sources other than market earnings will affect their change in economic status during the period of analysis. A large proportion of income from nonwage sources may be one indication of a household where the spouses have engaged in prior financial planning. For this reason, it is posited that the larger the proportion of income from nonwage sources, the greater the increase in the household's economic well-being during the period of analysis, other things held constant. In the PSID data there are three separate categories of nonwage income that can be controlled for in the estimating equation. These three categories are the proportions of household income derived from (1) rent and interest, (2) private pensions, and (3) Social Security.

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[8] The transition to retirement is defined by having worked more than 500 hours in one year and less than 500 hours in the next year, and in the latter year reporting one's employment status as "retired."

[9] The inclusion of such a regressor would lead to statistical complications if the dependent variable were change in household income. However, because the dependent variable is the change in the household's income-to-needs ratio, the likelihood of correlation between initial household income and the error term is small.

Finally, dummy variables that measure the age of the head of household and a variable that identifies the year of the widowhood are included in the equation. Generally, economic well-being varies over the life cycle and across calendar time. These variable are included in the model to control for the possibility of such age and period effects.[10]

DISCUSSION OF RESULTS

This model is estimated twice, once using t-1 to t+1 as the period of analysis and a second time using t-5 to t+5 as the period of analysis. The results for both equations are presented in Table 3. Tests of the overall goodness of fit for each equation indicates that the model fits well in both instances, although the proportion of explained variation is greater in the equation where the t-5 to t+5 period is used. The estimated coefficients and their associated t-statistics show that most of the *a priori* hypotheses are supported by the data.

Of central interest are the coefficients associated with the dummy variables that indicate if a husband died and if a husband reported any health limitations between t-i and t ($WIDOW_t$, $DISABILITY_{t-i}$, and $WIDOW_t$ $*DISABILITY_{t-i}$). With only one expection (the coefficient associated with $DISABILITY_{t-1}$), all of these estimated coefficients are large, in the hypothesized direction, and statistically significant.

In the t-1 to t+1 change equation, intact households where the husband reports having a health limitation(s) experience a modest (and statistically insignificant) increase in income-to-needs (.104) relative to intact households where the husband reports no health limitation, *ceteris paribus*. In contrast, widowed households where the husband reported a health limitation in the year prior to the death demonstrate a significant decline on income-to-needs (-.209 = - .651 + .104 + .338) relative to their healthy intact counterparts. But the estimated coefficients indicate that the greatest drop in economic status is experienced by those households where the husband reports no health limitation in the year preceding his death. As had been anticipated, these households show a marked decline with their income-to-needs ratio dropping by -.651 more than their otherwise comparable intact-couple counterparts between t-1 and t+1.

TABLE 3. PARAMETER ESTIMATES OF THE FACTORS AFFECTING CHANGES IN INCOME-TO-NEEDS (t-statistics in parentheses)

Independent Variables	Dependent Variables $(I/NEEDS_{t+1} - I/NEEDS_{t-1})$	 $(I/NEEDS_{t+5} - I/NEEDS_{t-5})$
CONSTANT	-2.15 (-4.02)**	1.43 (.503)
$WIDOW_t$	-.651 (-5.78)**	-.925 (-3.31)**
$DISABILITY_{t-1}$	.104 (1.43)	-.334 (-2.51)**
$WIDOW_t*DISABILITY_{t-1}$	.338 (2.14)**	.979 (2.86)**
$INCOME_{t-1}$	-3.22×10^{-6} (-4.04)**	-1.66×10^{-5} (-5.81)**
$INTRENT_{t-1}$	.628 (3.64)**	1.69 (4.06)**
$PENSION_{t-1}$	.263 (1.88)*	.898 (3.03)**
$SSECURITY_{t-1}$	.662 (5.26)**	.637 (1.94)*
$RETIRE_t$	-.109 (-1.32)	---
$PRERETIRE_{t-5}$	---	-.759 (-4.53)**
$POSTRETIRE_{t-5}$	---	-.229 (-1.12)
$AGE5062_t$	-.220 (-2.21)**	-.246 (-1.07)
$AGEGT62_t$	-.622 (-6.18)**	-1.43 (-6.28)**
$WIDYEAR_t$	.0376 (4.57)**	-5.02×10^{-3} (-.134)
R^2	.065	.17
F	13.9**	17.0**
N	1986	912

** Significant at the .05 level.
* Significant at the .10 level.

The estimates of economic change for the t-5 to t+5 equation are very similar to those described above. Again, healthy intact households fare the best and in the equation they serve as the benchmark of comparison. Surprisingly, widowed households where the husband had reported a health limitation are the next best. Their income-to-needs ratio changes by -.280 (= - .925 - .334 + .979) over the eleven-year period compared to the healthy intact group and the change is statistically significant. The widowed households with the "unhealthy" husbands are followed by the intact couples with husbands who have health limitations. This group shows a -.334 decline in economic status over the eleven-year period compared to the intact households where the husband reports no health problems. As in the short-run equation, widowed households with previously healthy husbands fare the worst. The coefficient estimate indicates that these households experience a -.925 change in income-to-needs relative to the healthy intact households.

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[10] One might think it is redundant to control for age and year of widowhood in a regression equation where the intact couple households have been weighted so that they mirror the widowed households age and year of widowhood distributions. However, while such weighting prohibits the use of age as an independent variable in any equation that predicts household structure, it does not preclude its inclusion in an equation that examines change in economic status. The reader is referred to Schlesselman [13] for a full discussion of the consequences of estimating regressions that do not take into account the matching variables used to structure the sample.

The other set of variables in the equations that merit discussion are the three variables that measure the proportion of household income from various nonwage sources at the beginning of the analysis period. The coefficients indicate that there is a statistically significant relationship between increasing the proportion of household income derived from private pensions, interest/rent, and/or Social Security, and positive changes in the household's economic status during the interim period of analysis, *certeris paribus*. In the short-run equation, Social Security has the largest positive impact, followed by interest/rent, and then private pensions. In the longer-run equation, an increase in the proportion of interest/rent income leads to the largest positive change in income-to-needs. An increase in the proportion of private pension income has the second largest effect while an increase in Social Security has the relatively smallest positive effect on change in economic status. These results support the hypothesis that the greater the share of household income from nonwage sources, the greater the growth in economic well-being over time.

Indeed, these findings suggest that private pensions, Social Security, and interest/rent income all serve to promote positive changes in economic status over time. In t-1, 34.5 percent of the widowed sample had some private pension income, 68.3 percent had some Social Security, and 55.2 percent had some interest/rent income. The corresponding figures for the intact households were 29.8 percent, 50.7 percent, and 59.1 percent, respectively.

Given that proportion of income from nonwage sources had such significant effects and that these income sources appeared to vary across household types, a second set of equations were run. These equations tested for the possibility that proportion of income from nonwage sources would have a differential impact across widowed and intact households. This interactive specification met with no support. That is, the effect of initial proportion of household income from private pensions, interest/rent, and Social Security on change in economic status, did not vary between widowed and intact households.

CONCLUSIONS

The results of these analyses demonstrate that the exogenous change in living arrangements brought about by the death of a spouse precipitates significant economic changes for the surviving household member(s). On average in the first your after widowhood, the analyses showed that household income fell to 61 percent of what it had been in the year prior to widowhood. During the same period, average income-to-needs for the newly-widowed households also fell to 85 percent of what it had been in the year prior to the death. These are fairly dramatic short-run changes. As a point of comparison, when Duncan and Hoffman examined the economic consequences of divorce, they found the household income (income-to-needs) of women one year after a divorce to be 70 percent (87 percent) of what it had been in the year preceding the divorce on average [4].

The analysis also demonstrates that there is heterogeneity in the economic experiences of widowed households. Indeed, some striking differences emerged once the data were partitioned on the basis of the husband's reported health limitations. During the pre-widowhood period, households where the to-be-deceased spouse reported a limiting health condition had lower income levels than those households where the spouse reported no health problems. It would appear that for the households with identified health limitations, one or both of the spouses may be decreasing their labor supply to the marketplace during this time. In addition, it is possible these households are also liquidating other income-generating resources, perhaps to pay their increasing medical bills.

Yet, regardless of prior health status, the descriptive work showed both widowed sub-groups with lower initial income levels than their intact counterparts had. This finding was contrary to our *a priori* expectation. It had originally been posited that households where the to-be-deceased spouse was reportedly healthy would have pre-widowhood income levels like those of the intact couples.

What is it about the to-be-widowed households that leads them to have lower levels of economic status years before the spouse dies? The answer to this question is somewhat elusive in part, because of data limitations. Prior health conditions clearly matter, but exactly what it is about prior health status that matters cannot be investigated in detail using the current PSID data set. In 1983 release of the PSID data, the only information on health status one has is the respondent's own assessment of whether or not he/she has a health condition that limits his/her activities. Ideally, one would like to have more information about what exactly the health limitation is and how long the respondent has had the health problem. Such information would help us better understand the heterogeneity of the death process and what impact it has on the economic well-being of the surviving household member(s).

REFERENCES

1. Burkhauser, R. V. and G. J. Duncan. "Life Events, Public Policy and the Economic Vulnerability of Children and the Elderly," draft manuscript, University of Michigan, 1978.
2. Campbell, R. T. and C. M. Hudson. "Synthetic Cohorts from Panel Surveys," Research on Aging, 7(1):81-93, 1985.
3. Corcoran, M. "The Economic Consequences Marital Dissolution for Women in the Middle Years," Sex Roles, 5(3):343-353, 1979.
4. Duncan, G. J. and S. Hoffman. "A Reconsideration of the Economic Consequences of Marital Dissolution," Demography, 22(4):485-497, 1985.
5. Duncan, G. J. "The Most Important--And Neglected--Consumer Choices," American Council on Consumer Interests' Annual Proceedings, pp. 106-110, 1985.
6. Helsing, K. J., M. Szklo, and G. W. Comstock. "Factors Associated with Mortality after Widowhood," American Journal of Public Health, 71-802-809, 1981.
7. Holden, K. C., R. V. Burkhauser, and D. A. Myers. "Income Transitions at Older Stages of Life: The Dynamics of Poverty," The Gerontologist, 26(3):292-675, 1986.
8. Hyman, H. H. Of Time and Widowhood. Durham, N.C.: Duke University Press, 1983.
9. Lopata, H. Z. "Contributions of Extended Families to the Support Systems of Metropolitan Area Widows: Limitations of Modified Kin Networks," Journal of Marriage and the Family, 40:355-364, 1978.
10. Masnick, G. and M. J. Bane. The Nation's Families: 1960-1990, Cambridge, MA: Joint Center for Urban Studies at MIT and Harvard University, 1980.
11. Morgan, L. A. "Economic Changes at Midlife Widowhood: A Longitudinal Analysis," Journal Marriage and the Family, 43:899-912, 1981.
12. Orshansky, M. "The Shape of Poverty in 1966," Social Security Bulletin, 31:3-32, 1968.
13. Schlesselman, J. J. Case Control Studies--Design, Conduct,and Analysis, New York: Oxford University Press, 1982.
14. Zick C. D. and K. R. Smith. "Intermediate and Delayed Effects of Widowhood on Poverty: Patterns from the 1970's," The Gerontologist, 26(6):669-675, 1986.

INNOVATIVE RESEARCH METHODOLOGIES APPLICABLE TO CONSUMER EDUCATION

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ABSTRACT

Three papers are presented which discuss innovative research methodologies applicable to consumer education: critical thinking, mass-analysis, and economic education.

INTRODUCTION

Consumer education as a school subject has continued to evolve over the past twenty years. What was once primarily a topic on buymanship taught in high school home economics classes is now a rather fully developed field of study. Today, consumer education courses are frequently offered in high schools, colleges and universities.

One part of the current interest in consumer education focuses upon research methodologies applicable to the field. Critical thinking as a problem solving method in the teaching of consumer issues involves not simply the development of thinking through increasing knowledge or just teaching thinking skills. It utilizes a human concerns approach to developing thinking which concentrates on the problems and issues affecting consumers. Using this methodology in teaching consumer education helps students themselves to make decisions on what actions should be taken to address various problems and issues.

Meta-analysis is an innovative research technique utilized to identify methods of converting data to a common statistic which allows comparison of results across studies. When tests for homogenity (comparing p levels and effect sizes) suggest a variation the explanation(s) can be ascertained. An analysis of several research studies on consumer education, for example, revealed that completing a course in the subject definitely increased post-test scores on appropriate measurement instruments.

A review of the research literature suggests that few innovative methodologies are being reported in consumer education. It was observed that economic education studies dominate the literature and that researchers are only beginning to address measuring the impact of consumer education on behaviors after students leave the formal classroom.

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THINKING CRITICALLY IN THE TEACHING OF CONSUMER ISSUES

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ABSTRACT

Three perspectives for developing critical thinking in the teaching of consumer issues are introduced and examined. Primarily information and thinking skill-oriented approaches are shown to have less-than-optimal consequences for students and society. An approach which addresses serious problems in consumer affairs while critically examining personal and societal beliefs and practices is described and illustrated.

It's Friday evening and J.R. is plotting the demise of yet another hapless competitor or family member. We don't know exactly what is going on in his head but we can get a pretty good idea by what he does next - a phone call with an offer that no one can resist, a threat that leaves no avenue for defense, a promise that makes all past transgressions seem like someone else's misunderstanding. J.R. has read the situation and all the people involved, has poured through his store of wiles and tricks, has considered all the facts at hand and has come out on top again. You can say a lot of things about old J.R. but you can't say that he doesn't think.

It was hard not to focus on J.R. and others like him when I recently came across a list that someone had assembled and labeled "The Characteristics of Good Thinking." There were 23 items on that list and we will not comment on all of them; however, some are particularly interesting when you consider the "J.R. type." "Organizes thoughts and articulates them concisely and coherently." J.R. seems able to see things more clearly than anyone around him and he certainly can express what he wants to convey very effectively. "Looks for unusual approaches to complex problems" - J.R. is creative and astute; he notices information that others miss and has ways of going about things that not many people would think of. "Listens carefully to other people's ideas" - J.R. probably knows more about other people than they do about themselves. He listens carefully so he can get others where they are most vulnerable.

We hear a lot about teaching for thinking these days. In fact, that is what this paper is about. On the other hand, the J.R. illustration cautions us that we should not move too quickly to the "how to's"; instead, we need to stop and consider the nature of that thinking toward which we hope to move. Is it the kind that J.R. uses or is it something different? And, what can we do as teachers and facilitators to help develop the kind of thinking we decide is best?

In this paper, we would like to explore briefly three different orientations to teaching for thinking and examine the assumptions and probable consequences associated with each. After building our case that the third approach presented is most desirable, we will illustrate how educators might use this perspective to promote the kind of good thinking that is needed in consumer programs.

DEVELOPING THINKING THROUGH INCREASING KNOWLEDGE

Without much question, the most common approach to teaching involves transmitting knowledge in the form of subject matter by teachers to students. Teaching could take this form for different reasons but many educators undoubtedly feel that students can think better if they know more. "Knowing more" is defined as having a rich store of facts, concepts and principles at one's disposal. Teaching from this approach stems from and reinforces particular notions of teachers and students as well as defines what knowledge itself is and what counts as being worth knowing.

Some of the fallacies--in addition to the pitfalls—of this orientation to teaching are readily apparent. We all are well aware that we know a great deal more than we are ever apt to put into practice. For example, I am willing to wager that we would all do much better on a written examination of nutrition principles than we would on the analysis of our last five days of actual eating. I will not speak for you but I think I know more about principles of money management than my checkbook indicates.

Thus, there seems to be more than a little fall-off between knowing and doing. A second obvious difficulty inherent in the content-centered approach is that it is not practically feasible to implement even now, let alone in the future. We have fondly come to know our times as the Information Age and phrases such as the "knowledge explosion" are familiar to us all. We have all heard that the amount of information which exists has doubled in the past ten, five or fewer years. Recently a hastily-called conference of physicists was held because developments in this field were being made far more rapidly than journals could report. New discoveries were continually phoned in during the meeting and rushed to the podiums as they occurred. It just is not possible to teach everything that there is to know anymore.

Less apparent but more serious, as quickly as new information is proliferating, this kind of knowledge is also peculiarly outdated. The kind of information that we have been talking about, the kind that is taught in knowledge-based classrooms, can only come from what is and can only describe what we have actually been able to observe from what is observable. We look for and we consequently find general principles, universal laws and "objective" facts - of, for example, decisionmaking, planning, managing. We forget that these generalities have come out of particular human experiences that have been shaped by particular and powerful social, economic, political and cultural forces.

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For these reasons, the content that is taught in traditional information-based programs comes from and perpetuates the status quo - as good or as bad as it presently is. Although presented as "factual" or neutral, knowledge can never be objective or value free. If students are led to believe that some information exists outside of or supercedes their own experiences and potential for knowing, they become powerless and vulnerable to events that are not of their own making. Thus, Botkin and his colleagues describe information-oriented approaches to education as "maintenance learning." They state, "Maintenance learning is the acquisition of fixed outlooks, methods and rules for dealing with known and recurring situations. It enhances problem solving ability for problems that are given. It is the type of learning designed to maintain an existing system or an established way of life" (2, p. 10).

This type of information-oriented learning also establishes defined roles for teachers and students. Since teachers have the kind of knowledge that "counts" and students do not, teachers are givers and students are receivers. Learners are viewed as comparatively passive individuals who absorb facts and information from "experts," those who have access to the important knowledge in the area. What students know is often ignored or disregarded and is sometimes considered misinformation or worse than knowing nothing at all.

DEVELOPING THINKING THROUGH TEACHING THINKING SKILLS

If information-based approaches distinguished education in the past, "teaching for thinking" appears to have become the vanguard of the eighties. From popular books to scholarly journals, national school studies to PTO meetings, the call for developing critical thinking skills and higher order reasoning is constantly heard. It would be useful to take a little time to examine what these efforts might mean for instruction in consumer issues programs.

Almost all of the recent books on teaching for thinking - and there are many - include a chapter on why better thinking on the part of people is needed and necessary. Often the increasing complexity of the world is cited as well as the need for reflective people in a participatory democracy. Many times, however, the need for good thinking is taken as a given and the writer goes on to discuss how this quality does not come naturally and/or is not fostered in traditional classrooms. Generally, it appears that we are less than clear about why it is really important to be able to think well in the first place.

To fill this void, authors frequently provide a description of what good thinking involves, sometimes expanding this portrait to lists of 23 traits as mentioned at the beginning of the paper in relation to J.R. One cannot help but recall the countless hours that have been spent in the past to construct lists of tasks or competencies for various occupations; is it possible that being able to show evidence of "doing" most or all of the 23 tasks should qualify a person as a certified "critical thinker?" Skepticism about this approach might involve debate about whether wholes are more than sums of parts. Nevertheless, thinking does tend to lose some of its dynamic essence when it is dissected and scrutinized and treated in segments.

On the other hand, approaches such as the 23 characteristics have served to provide the base for numerous "teaching for thinking" programs. As Sternberg (1987) reports in a recent Phi Delta Kappa article, one of the most frequently-heard questions he encounters on his teaching for thinking lecture circuit is, "Which program should we use"(10). Which program will improve our students' ability to compare, classify, order, estimate, extrapolate, interpolate, form hypotheses, weigh evidence, draw conclusions, devise arguments, judge relevance, use analogies, and so on and so forth? If one program concentrates on six critical thinking skills in depth, is it better than one that covers ten in less detail? If we can't teach all 23 qualities - or 15 or 32 - which are the most important ones to hit?

Richard Paul (1985) labels this skill-oriented approach to developing thinking as teaching critical thinking in the "weak" sense or fostering students' "vocational thinking skills"(6). There is no doubt that these kinds of skills are useful and even necessary to function effectively, particularly in technical areas that are best addressed by one rather consistent, rationally-determined system of ideas or procedures. On the other hand, most of our "real world" dilemmas are not of this kind. Instead, they involve, as Paul states, "opposing points of view, contradictory lines of reasoning, and the realities of power and self-delusion"(6). Without recognizing the nature of these latter kinds of situations, it is too easy to employ "good" thinking skills to rationalize and defend self-serving or pleasant illusions, our own dearly-held positions against threatening opposing views and/or blatantly distorted or morally-questionable opinions. We can become good thinkers but still think questionable thoughts. This situation seems well represented by "J.R.-type" characters. Its implications are particularly important to fields such as consumer affairs as we will discuss in the next section.

However, before moving on, let us explore briefly one way in which we frequently see thinking skills employed to perpetuate rather than eradicate bigger problems. Decisionmaking and problem-solving are two processes that are often taught in consumer programs (as well as others) as tools to help people deal more effectively with their daily lives. A problem is clearly identified and defined in "treatable" terms. Systematic steps are taught that have students consider goals, evaluate alternatives, weigh consequences and arrive at solutions. Only individual's creativity and ingenuity limit the possibilities and opportunities that might rise from what was once considered problematic. Debating whether or not the problem itself might be "wrong" - not in its definition but, rather, in its existence in the first place - is not considered necessary or productive. Problems are taken as givens and "solved" as quickly and efficiently as possible. The difficulties which arise from this approach will become more apparent as we move to the next section.

USING A HUMAN CONCERNS APPROACH TO DEVELOPING THINKING

A third way of viewing the development of thinking in consumer education programs concentrates on the issues or problems that affect consumers. These problems or concerns provide a framework and a reason for study. Thus, one does not learn content for the sake of interest or mastery alone; likewise, thinking skills are not taught primarily as exercises to strengthen and sharpen mental acuity. Instead, what is considered to be knowledge in consumer education consists both in **what** is known (some of the traditional "subject matter") and **how** it is known (the ways one thinks about the area) employed together to deal with matters of serious concern to consumers.

Let's focus first upon the special problems or issues because their qualities can tell us a great deal about the kind of thinking that is necessary to address them appropriately. These problems are practical concerns in that they involve determining **what action should be taken**. As such, they are different from abstract mental puzzles and from primarily "how to" technical problems. Consumer problems are recognized as human problems and, as such are permeated by humanly-constructed meanings, traditions, values, power structures and relationships and unique histories. Reid (1978) describes these problems as having the following characteristics:

1) They raise serious questions that demand complex answers,
2) The bases upon which decisions should be made are unclear and uncertain,
3) Some existing affairs must be considered to address the problem,
4) Each dilemma is in some ways unique, occurring in a particular contextual setting and period of time,
5) Choices need to be made between competing goals and values,
6) It is not possible to predict exactly the outcome of the resolution chosen,
7) On the other hand, we have reason to believe that our actions can lead to some more desirable state of affairs (8).

Problems do not come with labels that say "this is a practical problem" or "this is a technical concern." Rather, viewing the consumer world in terms of practical dilemmas requires a special orientation, one that is not always popular in this age of scientific answers and technological solutions. Each day we read and hear about rising incidences of personal bankruptcies, of families without adequate health protection, of the high cost of interest charges. Being good-intentioned professionals, we might respond, "People have trouble with money management, with setting priorities, with understanding lending options." "Let us give them more knowledge. Let us provide them with decisionmaking skills. Let us share what we know about planning, about managing, about investing. Let us help them overcome their problems once and for all."

But what may at first appear to be the problems we should "solve" often turn out to be symptoms of larger issues when we take the time and effort to probe more deeply. For example, is it an inability to manage successfully that is at issue when we note that 40% of those classified as being in poverty in the United States are children and another 10% of the poor are elderly? Fifty percent of our nation's poor are the young and the old! Is it a lack of knowledge that is the cause of one-fourth of all Americans and one-half of all black Americans reporting times when they did not have money to buy food, clothing or health care for their families - as they did in a recent Gallup Poll? Could the single moms whose mean family income in 1985 was $13,257 (less than 40 percent of the $34,379 average income for two-parent families) have avoided this state if they had had better thinking skills? But perhaps it was indeed some kind of critical thinking that kept the absentee husbands/fathers out of this no-win situation!

Sometimes - often - we need to question the conditions out of which our perceived problems arise, and help the people with whom we work to do the same. The settings in which our concerns are found are not unchangable givens - they are very much **affected**, even **determined** by, humanly-created policies, practices and institutions. The question becomes: Who benefits from these policies, practices and institutions? And, who suffers? In consumer affairs, we deal with the distribution of society's resources, a fundamental process that involves intensely-charged interests, deeply held dreams rooted within our cherished capitalist system and unacknowledged feelings of fear and bigotry.

In his difficult but most important collection of papers assembled in **What is Called Thinking?**, Heidegger (1968) suggests that most of our efforts at improved thinking are incremental and will only take us to what he calls the "foothills of thought." At that point, he believes "only the leap will help further. The leap alone takes us into the neighborhood where thinking resides (4)." He goes on to contend,

> In contrast to a steady progress, where we move unawares from one thing to the next and everything remains alike, the

> leap takes us abruptly to where everything is different, so different that it strikes us as strange (4, p. 12).

This is the kind of experience that is considered necessary for what Richard Paul speaks of as critical thinking in the **strong** sense (contrasted to the "weak" sense discussed earlier in this paper)(6). Paul portrays this strong sense of critical thinking as "a set of integrated macro-logical skills ultimately intrinsic to the character of the person and to insight into one's own cognitive and affective processes." He believes that attending to critical thinking in the strong sense involves "not only the development of **technical reason** - skills that do not transform one's grasp of one's basic cognitive and affective processes - but also with the development of **emancipatory reason** - skills that generate not only fundamental insight into but also some command of one's own cognitive and affective processes." In the strong sense, "we emphasize comprehensive critical thinking skills essential to the free, rational and autonomous mind" (6, p. 152).

WHAT THIS MEANS FOR CONSUMER ISSUES PROGRAMS

These are lofty-sounding goals that may tend to paralyze us rather than give us new visions for our teaching. Let's explore how what has been discussed earlier might be reflected in consumer education programs - especially in those intending to promote the effective critical thinking of their students.

Focus on important practical problems:

The most significant issue we need to address in our consumer education programs is that we focus on serious problem areas and we recognize the practical nature of these concerns. In doing this, we have to be careful to distinguish symptoms from real concerns, aberrations from ongoing problems, trees from forests. We cannot go for the "quick fix" but have to recognize the complex holistic nature of human situations. We need to be careful not to succumb to the temptation to reduce an issue only to its technical components or abstract out principles that avoid messy but critical human elements. And, we need to keep in mind that we humans make the worlds they live in as well as are affected by these worlds - thus, we **can** and **must** change what we create.

In teaching, this may mean that we use carefully-selected and/or developed case studies far more often than we have in the past. With our students, we would explore these or other resource materials for the social, economic, political, historical and cultural elements which the situations reflect and which affect how we address them. We would explicitly address desired ends or goals in relation to their moral defensibility in terms of their consequences for all who are involved. Different options for acting would be tested for appropriateness to the particular contextual factors at play and to the goals we have determined to be most desirable.

Develop good thinking skills and practice them continually:

The importance of possessing good thinking skills, of being competent in analyzing and processing information to arrive at sound and rational conclusions, is critical and cannot be minimized. These skills provide a foundation and a necessary condition for being able to assess what presently exists and to make accurate predictions for what is likely to happen if alternative strategies were pursued. Thus, these skills are necessary even though they are not enough by themselves alone.

Evidence is available that thinking skills may be taught and/or developed in educational programs. A classic example of an effort to do just this that is grounded in sound learning theory and research is Joyce and Weil's Models of Teaching (1986)(5). As mentioned earlier, other programs and resources are being produced rapidly. On the other hand, the effects of even the best of these approaches will be as fleeting as totally information-oriented courses if good thinking is not integrated into every aspect of instruction. Dewey said it best as he described the way that thinking had to be experienced, rather than taught:

> No thought, no idea, can possibly be conveyed as an idea from one person to another. When it is told, it is, to the one to whom it is told, another fact, not an idea...What he (the person) directly gets cannot be an idea. Only by wrestling with the conditions of the problem at first hand, seeking and finding his own way out, does he think (3, p. 48).

If we accept Dewey's position, then, although teachers can direct, guide, model and/or instruct, it is the students who must do the thinking as they struggle with real (or simulated) problems. Displaying critical thinking skills is not the same as thinking critically. Thinking critically needs opportunities to wonder, to speculate, to test and to deliberate over something challenging that merits and provokes this attention. Thinking takes place within students as a result of hard work on something that demands serious consideration. A teacher may set the stage and provide the cues but the student must write the script that he or she will follow. No formula or technique can short-circuit this essential process.

Continually ask ourselves hard questions about our own and society's beliefs and assumptions:

Finally, we and our students need to find ways that make it possible for us to "take the leap" and allow ourselves to move beyond our present ways of thinking- especially when these ways of thinking blind us to larger situations that are wrong and unfair. Getting outside of ourselves and looking critically at something that is really "us" - our thinking - is an extremely difficult but critical operation. Moreover, if we as educators expect our students to be able to become critical of their own ways of thinking, we teachers must be able to do this ourselves. Once we accept the importance of this process, the question arises, "How do we do it?"

The first part of the answer is, "We can seldom do this by ourselves." However, by taking part in serious discussions with other thoughtful people, we are more apt to begin to question that which we have found so comfortable and familiar in the past that we accepted it as a given. After opening areas to examination, we are able to scrutinize and evaluate them and then propose better ways for thinking about them. The importance of undertaking this process with others is emphasized by R.S. Peters:

> Given that critical thought about the assumptions in which we are nurtured rather goes against the grain, it will only develop if we keep critical company so that a critic is incorporated within our own consciousness. The dialogue within is a reflection of the dialogue without (7, p. 19).

As we become more skeptical and questioning, we can then ask hard questions of our students that they in turn may consider in discussion with their peers. For example, in a recent article, Boettner (1) describes a thought-provoking lesson developed around Shor's (1986) "Extraordinarily Re-experiencing the Ordinary" as students examine the "Cabbage Patch Doll Phenomenon" (9). Students were asked to stand back from a product they had come to take for granted and examine it as a reflection of larger social forces. Boettner encouraged this critical exploration through such questions as:

- Who created the phenomenon of the Cabbage Patch Doll?
- What social implications are created when a parent purchases a doll?
- How do advertising and media create wants and desires for people?

Hopefully, as students become more aware of how societal pressures promote certain practices, they cannot in the future be unconsciously controlled by these pressures or unintentionally contribute to undesirable practices themselves. For them, as Heidegger observes, everything has become radically different (4).

SUMMARY

After criticizing others for not offering convincing justification for the need to develop critical thinking, let us turn to this issue as we end. In areas such as Consumer Affairs, thinking is not an abstract nor an esoteric activity that is interesting but not essential. The substance of consumer education is not found in textbooks but, rather, is lived by real people everyday. The decisions that we make as individuals and as a total society have serious long-term consequences for ourselves and for future generations, for our society and for the world society as well. Thinking well in both the technical and in the emancipatory sense about important issues is not a nicety or a luxury; we cannot afford to not think - and act - in the best ways possible. We as consumer educators can help ourselves and our students come closer to this condition by what and how we approach our educational programs.

REFERENCES

1. Boettner, D. An Exercise in Extra-ordinarily Re-experiencing the Ordinary: A Critical Look at the Cabbage Patch Doll Phenomenon. Illinois Teacher. 30 (4): 152-153. March/April 1987.

2. Botkin, J.W., Elmandjra, M., and Malitza, M. No Limits to Learning: Bridging the Human Gap. England: Pergamon Press, 1979.

3. Dewey, J. Quoted in R.S. Nickerson, D.N. Perkins, E.E. Smith. The Teaching of Thinking. Hillsdale, NJ: Lawrence Earlbaum Associates, Inc., 1985.

4. Heidegger, M. What is Called Thinking? New York: Harper and Row, 1968.

5. Joyce, B. & Weil, M. Models of Teaching, Third Edition. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1986.

6. Paul, R.W. Dialectical Reasoning. In A.L. Costa (Ed.), Developing Minds: A Resource Book for Teaching Thinking. Association for Supervision and Curriculum Development, 1985.

7. Peters, R.S. What is an educational process? In R.S. Peters (Ed.), The Concept of Education. New York: The Humanities Press, 1967.

8. Reid, W.A. Thinking About the Curriculum. The Nature and Treatment of Curriculum Problems. Boston: Rutledge and Kegan Paul, 1978.

9. Shor, Ira. Critical Teaching and Everyday Life. Chicago: University of Chicago Press, 1986.

10. Sternberg, R.J. Teaching Critical Thinking: Eight Easy Ways to Fail Before You Begin. Phi Delta Kappa. 68(6): 456-459. February, 1987.

META-ANALYSIS & CONSUMER STUDIES

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ABSTRACT

This paper presents an overview a meta-analytic techniques employed in integrative research reviews. A framework for conducting the review is provided and an example of the application to Consumer Studies is provided. Eleven studies to measure the cognitive effects of formal consumer education course on consumer competency are summarized using meta-analytic techniques and their cumulative effect noted.

In social sciences knowledge does not build and advance as it does in the hard sciences. Research reports commonly end with a call for further research to replicate the findings for substantiation purposes. In the social sciences the findings are rarely replicated. In fact, many attempts at replication are designed to refute the findings of previous research on the topic. The failure to build and advance through replication of prior research is, in part, due to the nature of social sciences. Unlike hard sciences where experimental conditions can be strictly controlled, our research commonly characterized by artifactual conditions which attenuate results and prevent perfect replication.

Building on prior knowledge is not simple in a domain where effect sizes are generally small and a single study can explain only a small proportion of variance. Our literature reviews are typically presented in a narrative form including a discussion on previous research which discloses conflicting results. Thus, we are continually seeking to answer the same questions; we are in search of the definitive study which will finally lay the issue to rest.

The field of Consumer Studies has been beset by these problems in our efforts to demonstrate that consumer education is a worthwhile endeavor or a credible academic course of study. In 1986, Bannister [1] stated that "there is a need for research that is carefully designed and meticulously executed to measure the benefits of consumer education." Bannister further stated that to indicate that [five] previous studies on consumer education did not increase consumer competencies "may be misleading and potentially harmful generalization when viewed as a collective summary of the five research studies cited" [1].

Researchers have been attempting to measure the effects of consumer education in the schools since the 1960's and to date have not designed or implemented the definitive study. Literature reviews discuss the independent variables measured and controlled [age, sex, major field of study, cognitive ability, work experience, social class] and the dependent variables including behavior, attitudes, and cognitive gain. Results of the studies have indicated weak though statistically significant effects.

The reviews have not been nearly as informative as they might be with respect summarizing significance levels or summarizing effect sizes to provide an assessment of what is currently known. Quantitative results of the previous studies are rarely presented for comparison. It is possible to compare and combine the results of previous research through meta-analytic techniques which have been developed over the past twenty years. In spite of these methodological developments over the long term, it is only recently that there has been a growing interest in integrating research results.

Research reviews in the social sciences are finally beginning to move from a literary to a quantitative format. The purpose of this paper is to present an overview of meta-analytic techniques to synthesize knowledge within a specific research domain.

DEVELOPING AN INTEGRATED REVIEW

The purpose of a literature review is to demonstrate the current level of knowledge in a research domain. It is rare that a review in a thesis, doctoral dissertation, or published study establishes a clear answer to the underlying substantive issue identified in the hypothesis. More typically the review begins with a recitation of of the inconsistent results of previous research and concludes with the call for additional research.

The research review should systematically establish the concepts, variables, or situations and theoretical propositions linking the variables. As the findings are collected, consolidation should occur, leading to confirmed linkages among the variables [18]. As the quantification of research results across studies has gained momentum, several researchers have laid down a methodology for conducting an integrated review [6, 7, 12, 14, 18, 22, 25]. Monroe [18] described five steps to completing an integrated review.

STEP 1: DETERMINING THE RESEARCH DOMAIN

Prior to beginning the review, the primary research question must be identified. This will guide the reveiw process and enable the completion of a cohesive analysis. The question might be as general as "What are the benefits of consumer education? or more specific as "Does enrollment in a consumer education course increase competency in the marketplace?"

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STEP 2: DETERMINE THE SAMPLE

Prior to beginning the search for salient information, the relevant population of studies must be defined. Initially one should seek to identify as many as possible. Thus a variety of indexes as well as journals which are oriented to literature reviews should be examined as well as bibliographies of all studies reviewed.

Once the population of studies has been identified, the problem of how to choose a representative sample of studies if the number of studies is large or conversely how far afield should one go into related areas if the actual sample is small? In identifying the reviewed studies there are two problems which contribute to the sample being incomplete: publication bias, and methodologically flawed studies. There is documented evidence that journals are prejudiced against statistically non-significant results [22]. This is evidenced in studies which ought to measure the benefits of consumer education. Dissertations by Bibb [2], Claar [5], and Thomas [24] are cited by other authors for their failure to detect a difference in competency following a consumer education course. The reliance on dissertations to guide the reviews might be due to an attempt to examine the original studies or [more likely] due to the failure to publish the studies. The latter could be again due to two causes: no effort to publish nonsignificant findings on the part of the researcher or rejection by editors for the same reason. According to Rosenthal [22] the journals are filled with five percent of the studies showing Type 1 errors, while "file drawers" are filled with 95 percent of the statistically nonsignificant results. Methodologically flawed studies present a problem in that the "flaw" may bias the findings. While it is recognized that there is no perfect study, the methodologically flawed biasing effect should be looked for as a source of variation across studies - only after accounting for other sources of variation.

The studies selected for this paper will be limited to published papers on the cognitive effects of consumer education. These will be further limited to empirical studies published after 1970.

STEP 3: CODING THE STUDIES

The primary research studies reviewed constitute data for analysis. To be able to draw conclusions that are meaningful, it is necessary to consider the many different characteristics of studies that may contribute to inconsistencies in the findings. By devising a coding mechanism, it is possible to avoid glossing some factors of studies that contribute to error or inconsistencies in results. A coding systems should include:

1. Full Reference including: type of publication, time frame, and author's orientation or discipline
2. The constructs & variables measured: What is being measured? List operational and conceptual definitions, independent and dependent variables
3. Sample and unit of analysis including: how obtained, geographic location, descriptors
4. Measures or instrumentation including: reliability and validity and what is being measured (cognitive, attitude, behavior); measured objectively or subjectively?
5. Research design: survey, experiment, quasi-experiment.
6. Method of gathering data including the data collection plan and task(s) required.
7. External and internal validity issues including experimenter effect/expectancy
8. Hypotheses: conceptual and operational issues as well as direction
9. Results and analyses: statistical tests used and/or reported along with results; effect size, power of the tests, main effects, interactions, second order effects.
10. Substantive Results: relationships between the variables and how these relate to underlying theory

This list is based on recommendations of Monroe [18] and Rosenthal [22] Other meta-analysts and researchers have included additional items which may be more or less appropriate to the a specific field of study. By coding studies in this manner, one can readily define the research results in terms of the relationships between variables rather than defining results by the researcher's conclusions. A summary of the coding for selected empirical studies to measure the cognitive effects of a formal consumer education course is presented in Table 1. From the data in Table 1, the variables measured and their effect can be readily identified. The reliability coefficients compared across the studies give an indication of a possible cause of inconsistency in results as do differences in research design. While the method of measurement was similar, several used cognitive gain (posttest - pretest) following a course and others simply measured differences in knowledge at some point in time. Variation in sample sizes and differences in orientation of the researcher are also evident.

STEP 4: QUANTIFYING THE RESEARCH RESULTS

Every effort should be made to quantify the results of studies where these have been empirical. Meta-analytic techniques have been established which enable this process. In these techniques, the result does not refer to the researcher's conclusions, but to the simple relationship between two variables. The question is addressed as simply as: "What is the

Table 1
Empirical studies to measure the cognitive effects of formal consumer education courses

Reference	Constructs/ Variables	Sample	Instrumentation (Measures)	Research Design	Results
[1]Moser & Hollman (1986) Conference Proceeding. (Bus. Course)	Dependent = test score; independent = age, sex, work exp., major, CE course	College students n = 466	researcher dev. questionnaire 38 items; 2 vers. reliab. .513/.619	quasi. exp. posttest scores compared w/o use of pretest	w/wo CE = ns; 2yr/4yr = ns sex = ns; age F=9.88 p=.0001 major F=2.48 p=.0032 work exp. F=4.07 p=.0077
[2]Garman, McLaughlin, McLaughlin, Eckert. (1983) Conference Proceeding (CE course)	Dependent = test score; independent = with/without CE	College students w/CE n=175 wo/CE n=75	TCC; 55 items KR reliab .735 KR reliab. .735	quasi. exp. pre/posttest compared w/CE to wo/CE	multivariate F = ns w/wo CE post-pretest $F = (2.45)^2$ p=.015
[3]Carsky, Lytton (1984) Conference Proceeding (CE course)	Dependent = gain score; independent = sex, major, acad lev.	College students n = 107	TCC 55 items KR reliab. .735	pre experiment pre/posttest	pre/post t=12.09 p <.001 sex F=.01; major F=.32 acad. level F=5.42 p <.05
[4]Langrehr (1978) JCA (CE course)	Dependent = post independ; CE/ ECON; w/wo CE	HS students IL n=64: CE=26/EC=38 AL(w/o)=48	CIT [Claar 1974] 78 items	quasi. exp. pre/post	covariates: pre., IQ, soc. cl. w/wo CE F=26.56 p=.001 w/wo EC F=0.01 p=.999 CE/ECON F=13.33 p=.001
[5]Hawkins (1977) JCA (CE course)	Dependent = behaviors independ; w/wo CE in high school	HS grads. 2 yrs post n = 272	mail surv. 18 items	case study pre experiment	x^2 = ns
[6]Moschis & Moore (1978) JCA (sociology)	Consumer skills & socialization. Indep: TV, family, CE, peer, sex, age, soc. class	Students jrHS n=205 HS n=402	questionnaire Legal know = 6 TF Cronbach alpha .44 Role = 10 dis/agree Cronbach alpha .50	case study pre experiment	legal know; age t=41.09 sex t=4.22 p=.01 social class: F=11.63 p <.001 role; age t=22.64; sex=ns CE = ns [beta = -.04 -.06]
[7]Garman (1977) Natl Study for US Office of Education	Dependent = test score. Indep: w/wo 1+CE course;	College Seniors in Education n = 4616	TCC 55 items KR reliab. .735	case study pre experiment posttest	w/wo CE t=3.27 p <.001 w/CE n=307; w/o n=3801 1+CE/wo t=3.39 p <.001 1+Ce [n=508]/CE t=1.89 p <.05

[8]a Stanley (1974) norming data for TCC [Form A]	Dependent: post-test; Indep: w/wo CE	8th grade
		n=1103;
		w/CE n=54;
		wo/CE n=1,049
			TCC
			55 items
			KR reliab. .735
				case study
				pre experiment
					t=2.952 p <.01
					CE mean=22.537 sd=5.716
					wo/CE mean=19.797 sd=5.531

[8]b Stanley (1974) norming data for TCC [Form A]	Dependent: post-test; Indep: w/wo CE	10th grade n=608; w/CE n=79 wo/CE n=529	TCC 55 items KR reliab. .735	case study pre experiment	t=0.776 p <.50 CE mean=22.127 sd=6.358 wo/CE mean=22.031 sd=6.184
[8]c Stanley (1974) norming data for TCC [Form A]	Dependent: post-test; Indep: w/wo CE	11th grade n=813 w/CE n=107 wo/CE n=706	TCC 55 items KR reliab. .735	case study pre experiment	t=2.219 p <.01 CE mean=25.121 sd=7.689 wo/CE mean=24.493 sd=6.104
[8]d Stanley (1974) norming data for TCC [Form A]	Dependent: post-test; Indep: w/wo CE	12th grade n=750 w/CE n=651 wo/CE n=99	TCC 55 items KR reliab. .735	case study pre experiment	t=5.631 p <.001 CE mean=27.008 sd=6.967 wo/CE mean=25.375

relationship between a formal consumer education course and consumer competency?" To implement the meta analytic techniques, studies should be divided into the smallest complete units. Where the same subjects were not included in two or more of the Stanley norming tests (see Table 1),

it was appropriate to divide the study. It should be noted that the Stanley norming data (8a - 8d) were broken down into four separate studies based on the academic level of the students. To quantify the results of multiple studies, homogeneity of the studies is tested through a comparison of the levels of significance and the effect sizes. An estimate is made of the magnitude of the relationships between variables and the accuracy of the effect size.

STEP 5: INTERPRETING AND REPORTING RESULTS.

Following these analyses, conclusions can be drawn on cumulative findings of the relationships among the variables studied in previous research and their effects on the underlying conceptual framework. A written report of the integrated review should include a description of all procedures used as well as tabled summaries of the data which have been analyzed. The inclusion of the latter would allow reanalysis by the reader or another researcher wishing to investigate the topic.

FUNDAMENTALS OF META-ANALYTIC TECHNIQUES

In the following section an overview of meta-analytic techniques will be presented. The data in Table 1 will be used as the basis for analysis to begin an investigation into the question, "Does enrollment in a formal consumer education course increase competency in the marketplace?" For purposes of the present analysis, the question might be rephrased to read, "Have previous attempts to measure the cognitive effects been successful in identifying the benefits of consumer education?"

In combining the results of previous research, relationships between and amongst the variables are are compared and combined. Where conflicting results have been reported in previous studies, the conflict may be resolved (see Fern, Monroe & Avila, 1986). Meta-analytic procedures provide the vehicle for quantifying results and determining the statistical significance of a set of studies which sought to answer the same question.

The objective of cumulating findings across studies is to determine the relationship between two variables such as the relationship between formal consumer education and consumer competency. Whether or not a relationship has been found to exist depends on a two part answer to the research question: (1) an estimate of the magnitude of the relationship, and (2) the test of significance of the difference between the obtained and expected effects.

Statistical significance is dependent on the sample size as well as the difference between treatments:

TEST OF SIGNIFICANCE = EFFECT SIZE X SAMPLE SIZE (1)

In order to cumulate and synthesize research findings, a common statistic is needed to compare results across studies. Hence it is necessary to identify methods of converting data to a common statistic. Two types of comparisons are made to test for homogeneity of the set of studies: a comparison of the significance (p) levels and a comparison of effect sizes. Table 2 provides the data from the sample of studies in Table 1 which is essential for completing the meta-analysis. The design, sample size, statistical test results (limited to the two variables under consideration here), and the degrees of freedom were taken from Table 1. The data in the remaining columns were computed for the present analysis.

THE COMMON STATISTIC

The p level, z, r, and z_r in Table 2 were computed for this analysis from the data provided by the eleven studies in this sample. The p levels used in these analyses are one-tailed. Many research results are reported as two-tailed tests of significance and the reviewer should make note of this in coding the studies. The one-tailed p level is converted to Z (a standard normal deviate) using a table which gives the area under the standardized normal distribution. More precise measures can be made if exact p levels are reported than if only the level of rejection is noted (ie. $p = .003$ vs. $p < .05$). Frequently p levels are not given for nonsignificant results in which case $p = .50$ is assigned along with the corresponding $Z = 0.00$.

Research reports frequently fail to give sufficient data to compute effect sizes, but it is usual to report p levels. The Z corresponding to a p level can be used to develop a reasonable approximation of the effect size. The effect size (r) can be computed from Z as follows:

$$r = \frac{Z}{\sqrt{N}} \qquad (2)$$

Using study #6 as an example, where $n = 4616$ and $Z = 3.29$; $r = .048$ which is which is extremely close to the value $r = .049$ as computed from the t statistic.

Table 2
Research results for published studies on the cognitive effects of consumer education

Study	Design	Sample	Test	df	p^a	Z	r	z_r
1	posttest	466	F = ns	---	.50	0.00	---	----
2	pre/post	254	$F = (2.45)^2$	1250	.007	2.46	.152	.153
3	pre/post	107	t = 9.946	105	.0005	3.29	.696	.891
4	pre/post	110	F = 26.56	108	.0005	3.29	.444	.477
5	post HS	272	χ^2 = ns	270	.50	0.00	----	----
6	posttest	4616	t= 3.327	4613	.0005	3.29	.049	.049
7	posttest	607	Beta = ns	606	.50	0.00	----	----
8a	posttest	1103	t = 2.952	1101	.005	2.58	.089	.090
8b	posttest	608	t = 0.776	606	.50	0.00	.031	.031
8c	posttest	813	t = 2.219	811	.005	2.58	.078	.078
8d	posttest	750	t = 5.631	748	.005	2.58	.202	.205

[a] One-tailed probability
[b] TCC - Test of Consumer Competencies (Stanley, 1976)
[c] CIT - Consumer Information Test (Claar, 1973)

Several different effect size estimates can be used. The most common are Cohen's d and the correlation coefficient r.

$$d = (\bar{Y}_1 - \bar{Y}_2) / s_y \qquad (3)$$

Either may be computed from the other utilizing the relationship:

$$r = d / (d^2 + 4)^{1/2} \qquad (4)$$

Rosenthal [18] prefers r to d because it is not necessary to make any adjustments when moving from t tests for independent samples to t's for correlated samples and it is often impossible to accurately compute d from information provided in a published report of a study. Results of t tests and ANOVA F tests can easily be converted to r:

$$r = \sqrt{\frac{t^2}{t^2 + df}} \qquad (5)$$

Using study #6 as an example, where t = 3.327 and df = 4614; 11.069 / 11.069 + 4614 = .0024 = .049 = r.

$$r = \sqrt{\frac{F(1,-)}{F(1,-) + df\ error}} \qquad (6)$$

[(1-) indicates 1 df in numerator]

Using study #4 as an example, where F = 26.36 and df = 108; 26.36 / 134.36 = .197 = .444 = r.

The correlation coefficient r is converted to z_r using Fisher's transformation. The transformation tables to obtain z_r can be found in the back of most statistic texts. As can be observed in Table 2, the Fisher transformed z_r is weighted in favor of higher correlation coefficients.

COMPARING RESEARCH RESULTS

The first step toward combining research results is to compare across studies for homogeneity. Two types of comparisons are made for homogeneity of the set: a comparison of p levels and a comparison of effect sizes. The test for homogeneity of p levels is:

$$\sum (Z_j - \bar{Z})^2 \text{ distributed as } X^2 \text{ with } K - 1 \text{ df} \qquad (7)$$

For the data in Table 2, where $\bar{Z}$ = 1.824 and $(Z_j - Z)^2$ = 3.327 + .404 + 2.149...... = 21.872 = X^2. The probability of this chi-square value with 10 df is approximately .001. Thus, these 11 studies appear to be heterogeneous. An alternative and more conservative approach to comparing effect sizes is to assign p = .01 to all studies reporting a value < .01. Using this approach for the data in Table 2, $(Z_j - Z)^2$ = 17.872. The probability of this chi square with 10 df is approximately .02, still indicating heterogeneity. This variation in significance levels could be due to sample size or to effect size. Where the sample size ranges from 107 to 4616, there is a fair likelihood that sample variation is contributing factor to this result.

Several methods of testing for homogeneity of results have been developed. One method to compare results or effect sizes involves using the transformed z_r and conducting a chi-square test.

$$\sum (N_j - 3)(z_j - \bar{z})^2 \text{ is } X^2 \text{ with } K - 1 \text{ df} \qquad (8)$$

where z_j is the transformed z_r and z is the weighted mean:

$$\bar{z} = \Sigma (N_j - 3) z_j \,/\, \Sigma (N - 3) \qquad (9)$$

For the data in Table 2:

$$\bar{z} = \frac{251(.153) + 104(.891)....}{252 + 104 + 107 ......} = .077$$

and $(N_j - 3)(z_j - \bar{z})^2 = 251(.153 - .077)^2 + 104(.891 - .77)^2 ... = 104.803$. With 10 df the probability of this chi-square value is less than .001 indicating again that the results of these tests are heterogeneous.

When results of these preliminary tests suggest that there is variation across studies, explanations for the variation should be explored. Four possible causes include moderator variables such as differences in research design and three artifactual sources of variation. The artifactual sources include variation due to sampling error, variation due to unreliable measures, and variation in range (when there is a large distribution of potential values for the independent variable). Formula to correct for these can be found in Hunter, Jackson, and Smith [15].

A first effort to identify causes for the heterogeneity of the set of studies might be to identify moderator variables. In reviewing the data in Table 2, it is apparent that design differences could be a cause. For those studies which measured cognitive gain resulting from completion of a Consumer Education course (pretest/posttest designs), the correlation coefficients tend to be higher than for those where consumer competency was measured at some arbitrary point in time. By applying formula (8) to the set of three studies which used pre/post test designs, $(N_j - 3)(z_j - z)^2$ is X^2 with K - 1 df = 40.27 with 2 df, the probability of this chi-square value is < .001. Hence, these three studies have produced heterogeneous results. As z_r for study #2 is considerably lower than the remaining two which utilized this design further examination of this study is needed. The differences in reporting are evident (df = 1250). It is possible that the low r (z_r) is due to a statistical aberation.

The test for homogeneity might also be applied to the eight studies which measured competency without the use of a pretest. The results of the test (formula 8) for homogeneity are X^2 = 14.893. With 7df, the probability of this chi-square value is < .05. Thus, indicating that other moderator variables in addition to design should be examined. Study #8d had a much higher effect size than the remaining three of this group (8a, b, c), and is the cause of the difference. Because the design and research conditions were the same as for the other Stanley norming tests, the result seems to be artifactual and a look at the primary research data is suggested. When looking for the effects of moderating variables, other methods may be employed. For example, Monroe [18] used point biserial correlation when contrasting within and between group research designs.

COMBINING RESULTS

Although the tests for homogeneity indicated that there were statistically significant differences among the studies, these results did not directly address the question posed earlier: "Have previous attempts to measure the cognitive effects been successful in identifying the benefits of consumer education?" To answer this question, the results of the studies can be combined. By combining the probability levels of the results of the eleven studies, the overall probability that there is a positive relationship between a formal consumer education course and consumer competency can be estimated. The standard normal deviate Z's for the p levels of the studies can be summed and divided by the square root of the number of studies.

$$Z_m = \frac{Z}{\sqrt{N}} \qquad (10)$$

For these eleven studies, $Z_m = 20.07 / 3.32 = 6.045$ and is significant at the .01 probability level. If the three studies which used gain scores (posttest - pretest) are eliminated from the set, $Z_m = 3.91$ which is still statistically significant at .01 probability. Thus, it can be concluded that there is a statistically significant probability that there is a positive effect of a formal consumer education course on consumer competency. However, because level of significance for any nonzero effect size is monotonically related to the number of sampling units employed [22], these results should be viewed cautiously. As shown in Table 2, several of the studies obtained a small effect while employing a large sample. A judgement must be made as to whether the effect is substantive or trivial.

It is possible to estimate the combined effect size in a manner similar to that used above. The combined effect size estimated using the transformed z_r and computing $\bar{z}$:

$$\bar{z} = \sum z_j / K \qquad (11)$$

For the eleven studies, $\bar{z} = 1.974/11 = .179$ $z_r = .177 = r$ which is positive. To determine whether the correlation coefficient (.177) is statistically different from 0, r must be converted to t and the significance of t found.

$$t = \frac{r}{1 - r^2} \text{ X } df \qquad (12)$$

For the eleven studies, $t = .177/.907 \text{ X } 3.16 = .617 = t$ which is nonsignificant. Thus, we could tentatively conclude that while there is a high probability of finding a positive effect of a formal consumer education course, the effect may not be meaningful.

In addition to knowing the probability of finding an effect, a measure of the strength of the effect can be confirmed by estimating the number of additional or unretrieved "file drawer" studies it would take to reduce the probability of a positive relationship to p = .05 (Z = 1.645). Several formulas can be used which vary as to conservatism. If the studies reviewed are totally independent of one another, the following method can be used:

$$N = \frac{(\Sigma Z)^2}{2.706} \qquad (13)$$

For the eleven studies, $N = 20.07^2 / 2.076 = 183$. However, these eleven studies were not totally independent. Four of the eleven were taken from the Stanley norming data. While the subjects differed, all were residents of the same state, and the studies were conducted at the same point in time. Three additional or unretrieved studies used the same measurement instrument. For situations where the studies are not totally independent, a more conservative estimate can be obtained by application of the following:

$$N = \frac{K\,[K\bar{Z}^2 - 2.706]}{2.706} \qquad (14)$$

For the eleven studies reviewed, $N = 11\ [(11 \text{ X } 20.07 - 2.706] / 2.706 = 138$ more studies having nonsignificant findings would be needed to reduce the overall probability of finding a positive effect to p = .05. It should be noted that the previous two tests for overall significance and the answer to the "file drawer" problem are extremely powerful.

CONCLUSIONS AND RECOMMENDATIONS

This paper presented an overview of meta-analytic techniques and their potential applications to the field of consumer studies. To demonstrate the quantitative methods for conducting an integrated research review, a set of studies which measured the cognitive effects of formal consumer education was analyzed.

Although the results of the studies summarized were not in agreement when tested for homogeneity, the combined probability test supported the majority of studies which found a positive effect of a formal consumer education course. However, as the combined effect size was nonsignificant, there is a likelihood that results of additional tests to measure the effects of formal consumer education courses will obtain similar results. While it was concluded that an additional 138 studies with nonsignificant results would need to be retrieved from the file drawers or conducted to disconfirm the relationship posited, the practical significance of these is questionable. These results should not be construed to mean that consumer education is not effective, but rather to indicated that different methods of measuring the benefits of consumer education should be identified. Alternative approaches have been suggested elsewhere [4].

These results should be viewed cautiously and their limitations noted. Several published studies such as Dickinson [9] and Misselwitz [17] were not included in the review. Additionally, only the main effects of the eleven studies were compared and no effort was made to look for interactions or second order effects. The exception to this was the examination of posttest - pretest studies separate from posttest only studies. Further, corrections in the data were not made for measurement error, sampling error, or possible range variation. Lastly, because of the small effect sizes found and the high power of the tests conducted, a judgement call must be made as to whether the results are of practical significance or merely of statistical significance.

Meta-analytic techniques provide a quantitative assessment of a research domain. These analyses facilitate the handling of a large number of research reports which is likely to include a number of weak and heavily flawed studies. These techniques provide an opportunity to isolate relationships between and amongst variables studied in the domain. In addition, the formal classification of studies and analyses can be useful in building theory in a maturing discipline.

There are disadvantages and limitations to the quantitative methods for integrating research results. A primary limitation rests with the insufficiency of reported data. Published studies should report treatment means and effect sizes along with precise p values for both significant and nonsignificant tests. Information on reliability and validity measures is essential for complete analyses as are non quantitative aspects of the research such as the operational definitions for the constructs, and the sampling procedures.

As with many things, meta-analysis is no panacea. The quantitative techniques are only one component of the carefully executed integrated review. To conduct meta-analyses without rigor through out the review process can be misleading and results of the statistical tests not judiciously undertaken can be erroneous.

The field of consumer studies has probably reached the a stage maturity at which time a sufficient number of studies have been conducted that the cumulation of findings is feasible. This cumulation can be used to build theory and to permit the discipline to move to a higher plane of research in several domains.

REFERENCES

1. Bannister, Rosella (1986) Discussion of Papers on Consumer Education. in K. Schnittgrund (ed.), American Council on Consumer Interests 32nd Annual Conference Proceedings, 252-253.

2. Bibb, F.G., (1971). A Comparative Study of the Knowledge of Three Aspects of Consumer Information Possessed by Selected Indiana, Illinois and Wisconsin University Freshmen, Unpublished doctoral dissertation. Northern Illinois University.

3. Carsky, Mary L. & Lytton, Ruth H. Changes in Consumer Knowledge and Attitudes: Do Student Characteristics Make a Difference? Journal of Home Economics and Consumer Studies (in press)

4. Carsky, Mary L. & Mitchell, Glen H. (1986). An Alternative Approach to Evaluating the Effects of Consumer Education. (Unpublished working paper). Willimantic, CT: Eastern Connecticut State University.

5. Claar, R.C. (1973) Analysis of Economic Education and Consumer Education Knowledge of Kansas High School Seniors. Unpublished doctoral dissertation, Kansas State University.

6. Cook, Thomas D. and Leviton, Laura C. (1980). Reviewing the Literature: A Comparison of Traditional Methods With Meta-Analysis. Journal of Personality, 48 (December), 449-472.

7. Cooper, Harris M. (1981). Scientific Guidelines for Conducting Integrative Research Reviews, Review of Educational Research 52 (Summer), 291-302.

8. Dickinson, Virginia H. & Shaver, James P. (1982) A Test of Consumer Awareness for Adults. Journal of Consumer Affairs, 16 (Summer), 241-260.

9. Fern, Edward F., Monroe, Kent B., & Avila, Ramon A. (1986). Effectiveness of Multiple Request Strategies: A Synthesis of Research Results, Journal of Marketing Research 54 (May) 144-152.

10. Garman, E.T. (1979). The Cognitive Consumer Education Knowledge of Prospective Teachers: A National Assessment. Journal of Consumer Affairs, 13 (1), 55-63.

11. Garman, E.T., McLaughlin, J.S., McLaughlin, G.W., & Eckert, S.W. (1983). Measuring Change in Comprehension and Attitude in Consumer Education for Postsecondary Students. Proceedings of the Twelfth Annual Southeastern Regional Family Economics-Home Management Conference, February 2-4, 1983, 75-80.

12. Glass, Gene V., McGraw, Barry and Smith, Mary Lee (1981). *Meta-Analysis in Social Research.* Beverly Hills, CA: Sage Publications, Inc.

13. Hawkins, C.H. (1977). A Study of the Use of Consumer Education Concepts by High School Graduates. *Journal of Consumer Affairs,* 11 (2) 123-127.

14. Hunter, John E., Schmidt, Frank L., and Jackson, Gregg B. (1982). *Meta-Analysis: Cumulating Research Findings Across Studies.* Beverly Hills, CA: Sage Publications, Inc.

15. Langrehr, F.W. (1979). Consumer Education: Does It Change Students' Competencies and Attitudes? *Journal of Consumer Affairs,* 13 (2) 41-53.

16. Langrehr, F.W. & Mason, B.J. (1977). The Development and Implementation of Consumer Education. *Journal of Consumer Affairs,* 11 (1) 63-79.

17. Misselwitz, Rolf. (1968). "A Study to Determine the Extent of Consumer Education Knowledge of Secondary School Students Related to Family Finance." *National Business Education Quarterly,* 37, 30-31.

18. Monroe, Kent B. (1986) A Methodology for Conducting Integrative Research Reviews. (Unpublished working paper). Blacksburg, VA: Virginia Polytechnic Institute and State University.

19. Mochis, George P. & Moore, Ray L. (1978). An Analysis of the Acquisition of Some Consumer Competencies Among Adolescents. *Journal of Consumer Affairs,* 12 (1) 277-293.

20. Moser, Ronald H & Hollman, Kenneth W. (1986). "The Consumer Fiance Course: Does it Serve a Useful Purpose in Higher Education?" Paper presented at the East South Economic Conference, February 12-15, 1986.

21. Pillemer, David B. and Light, Richard J. (1980). Synthesizing Outcomes: How to Use Research Evidence from Many Studies. *Harvard Business Review,* 50 (May), 176-195.

22. Rosenthal, Robert (1984). *Meta-Analytic Procedures for Social Research.* Beverly Hills, CA: Sage Publications, Inc.

23. Stanley, T. O. (1976. *Test of Consumer Competencies.* Scholastic Testing Service, Inc., 4489 Mayer Road, Bensonville, Illinois.

24. Thomas, Lillie, R. (1969). *A Comparative Study of the Effects of Course Organization on Achievement in Consumer Education Concepts.* Unpublished doctoral dissertation. Tempe, Arizona: Arizona State University.

25. Yu, Julie and Cooper, Harris M. (1983). A Quantitative Review of Research Design Effects on Response Rates to Questionnaires. *Journal of Marketing Research,* 20 (February), 36-44.

RECENT RESEARCH IN CONSUMER EDUCATION UTILIZING INNOVATIVE METHODOLOGIES

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ABSTRACT

This paper on research in consumer education contains two dimensions. First, illustrations are presented representing the type and breadth of recent research in consumer education. In addition, it delineates a synergistic approach to possible research methodologies which might further enhance research efforts in consumer education.

RECENT RESEARCH IN CONSUMER EDUCATION UTILIZING INNOVATIVE METHODOLOGIES

Consumer education research continues to attract both the best and worst of critic comment. These opposites of "best and worst" should not be surprising or unexpected. Consumer education, by its nature, blends elements of disagreement over content with somewhat controversial teaching/learning theory. In addition, delivery systems offer diverse teacher attitudes, knowledge levels and styles. Such diffuse characteristics provide the mosaic for important, continuing discussions about "innovative" methodologies.

This brief synopsis developed around two thrusts. First, there was a search of recent literature for those more creative research concepts which might provide vistas for additional "innovative" activity. Second, it was considered appropriate to challenge thought about possible synergistic linkages as motivation for more "best" scenario research.

RECENT INNOVATION

Searches were conducted for recent years. The process yielded several hundred documents, seventy-seven of which were pulled for review. Only four were selected from among the seventy-seven for reference in this report.

Through efforts of the Agency for Instructional Technology; Canadian Foundation for Economic Education; and the Joint Council on Economic Education [5], a set of six studies were conducted on the "Give and Take" series developed for secondary school use. This project included a consortium of agencies representing forty-five states and provinces. The series was determined to be effective as a supplement to traditional instructional patterns. It is important to note the teaching strategy had a direct impact on critical reasoning skills and a positive, indirect impact on verbal and quantitative skills.

The "Give and Take" series used as its base a set of twelve 15-minute television/film programs, printed materials and selected teacher strategies to improve knowledge and decision-making skills for thirteen to fifteen year old students. One of the more significant aspects of this study relates to its scale. Involvement of large numbers of students, teachers and professional agency people provides a model useful in other areas of research.

The second piece chosen for review was completed by Nelson [4] and involved instructional approaches to study of the world economy. An intriguing rationale for development of controversy was utilized to delineate elements of economic thought. Economics by its nature is controversial and ideology and nationalism appear to be dominant obstacles in economic education. A variety of major stereotypes and perceptions of economics were designed to highlight disparities in thought. Students were encouraged to explore these differences in testing their own ideas. Students responded well and were motivated by the approach. This project illustrates an unusual teaching style.

Green and Williams [2] completed an analysis of competencies demonstrated by high school seniors enrolled in selected schools in the Rocky Mountain states. This study was chosen as illustrative of a number of similar research projects. Comparisons were made by states as well as school size. In addition, comparisons were built on gender, race and family income. A fifty-question consumer economics examination was given to a total of 751 high school seniors. This study, as have a number of other similar studies, exposed a relatively low comprehension of consumer knowledge. Data suggested the greatest discrepencies focused along racial lines. This study depicts the need for an instrument which is broadly accepted so a large data base can be created.

The final study cited here was conducted by Hearn [3] assessing consumer education in Oklahoma Secondary Schools. It was chosen for inclusion for two reasons. First, it deals with legislative requirements and at the same time, it assesses the programmatic impact of consumer education. In addition, it provides a model for use in evaluating other state programs where consumer or economic education is mandated.

Several things were focused as the result of the Hearn study. For example, consumer education was found to be an integral part of secondary education in Oklahoma. A multidisciplinary approach was utilized which provided a broad base for programs. While a number of positive dimensions were defined, one of the most frustrating findings related to the fact that less than 20 percent of all Oklahoma students were enrolled in classes covering consumer education topics. Legislation appeared to have had almost no effect on the initiation of consumer education in the public secondary schools of the state.

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A SYNERGISTIC MIX

It is interesting to note from these selected studies that our innovation in research tends to focus itself either on methods of teaching or content taught, or some mix thereof. While this is to be expected, it does reflect somewhat superficial barriers placed on our own thinking about research methodologies for consumer education.

An additional purpose for this paper was to therefore excite and extend synergistically our creative thought about research in consumer education. The rationale for using the term synergistic to describe another approach emphasizes the fact that it brings existing methodologies together in somewhat unique ways for possible application to consumer education.

For some time, marketers have utilized the technique of life-style definition or psychographic analysis in the consumer profiling process. At the same time but on a very different track, learning theorists such as Bloom [1] have looked at a variety of taxonomies built on a variety of teaching/learning theories. Yet a third uniquely different dimension of effort has gone into the definition of content appropriate for inclusion in elementary, secondary and/or higher education in the consumer arena. It would appear no more than two of these three elements have been brought together by researchers in designing methodologies which might give insights to effectiveness in consumer education. (It is important to note that "effectiveness" as used here implies doing the right things, as opposed to efficiency which highlights a process of doing things right [Drucker]).

A synergistic mix in research suggests the need to pull together a solid base of teaching/learning theory, with the psychographic profiling process of students to determine the unique characteristics which blend most effectively with various teaching/learning styles. It would then be possible to experiment with a variety of content areas to determine just which mix of content, teaching style, and psychographic student profile leads to the greatest level of understanding.

This suggestion may seem rather farfetched at first, yet closer scrutiny provides insights which might make it more acceptable. For example, we have by and large arranged students by demographic characteristics, rather than psychographic profile characteristics. However, not every seven year old or fifteen year old or twenty-two year old learns in the same way at the same rate with the same end result. It might be interesting experimentally to arrange students within reasonable demographic limits, around life-style and/or psychographic characteristics rather than purely demographic attributes. Once these students are arranged psychographically it would be of further interest to determine how teaching/learning theory interfaces with success of these various groups of students. The third and causal element of change would then be introduced through use of selected content in a variety of consumer education topical areas.

A selected group of educators in concert with graduate students and other professionals in statistics and research might be formed to initiate synergistic research activity at a variety of levels. If enough interest existed nationally it might be that within three to five years a data bank providing a sum greater than its parts could exist. In effect, a national net could be used to mobilize resources and enhance results.

For too long, many who supervise graduate work and engage research themselves, have worked independent of others who have similar or somewhat parallel interests. As a result of this, the literature in consumer education research appears fragmented and significantly more splintered than might be appropriate for a young discipline. If the area of consumer studies is to attract recognition, it will in fact participate in collaborative effort which provides support for more specialized, parochial research interests. It is intriguing to think that collaborative effort might generate recognition and integrity for consumer education research which not only fulfills individual researcher needs but also adds to the body of knowledge and theory base so badly needed in consumer education.

REFERENCES

1. Bloom, Benjamin S., Englehart, Max D., Furst, Edward J., Hill, Walter H., and Krathwohl, David R. Taxonomy of Educational Objectives: The Classification of Educational Goals; Handbook I: Cognitive Domain. New York: David McKay Company, Inc., 1956.

2. Green, Gary and Williamson, Gerald (1986). An Analysis of High School Seniors Consumer Competencies in Selected Schools in the Rocky Mountain States. Unpublished manuscript, University of Oklahoma, School of Education, Norman.

3. Hearn, Evelyn L. (1980). An Assessment of Consumer Education in Oklahoma Secondary Schools and the Impact of the Economic Education Act of 1974. Unpublished doctoral dissertation, Oklahoma State University, Stillwater.

4. Nelson, Jack L. (1984). Approaches to Education About a World Economy. Proceedings of Joint Meeting of the Social Science Education Consortium and the Bundeszentrale fur Politische Bildung. Irsee, Bavaria, West Germany.

5. "What the Research is Saying: Give and Take Series" (1986). Research Report 95. Agency for Instructional Technology, Bloomington, IN; Canadian Foundation for Economic Education, Toronto; Joint Council on Economic Education, New York, N.Y.

FOOD PRICES AND HOUSEHOLD CHARACTERISTICS

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ABSTRACT

A new version of the characteristics model is examined. Results can be used to estimate which foods are over and under valued and to identify the effects of household characteristics on the demands for nutrients.

Characteristics theory assumes that consumers derive utility from the properties of goods consumers purchase in the marketplace. These properties are called characteristics, or attributes. The framework has contributed to our understanding of consumer demand through focusing attention on the characteristics goods possess, as opposed to the goods themselves. The demand for a good is derived from the demand for attributes. Given this perspective, an understanding of the structure of consumer demand for goods rests upon analyses of implicit prices of attributes and attribute demand. Models developed in this context analyze 1) consumer implicit prices of attributes and 2) the demand for attributes.

The consumer goods characteristics model (CGCM) is a form of the characteristics model created by Suvannunt and Ladd and Suvannunt, extended by Ladd and Zober, and summarized by Ladd. The model assumes goods possess common and unique attributes. Common attributes are acquired from more than one good, whereas a unique attribute is acquired from a single good. Terry noted the assumption can be a limitation when examining categories of goods which only produce a common set of characteristics, such as occurs with food nutrients.

This paper explores two applications of the Terry version with respect to food demand. One is an examination of household valuations of food nutrients and their relationships to food prices. The other is an estimation of the effects of household characteristics on nutrient demand.

The first is empirical in nature. It pertains to the use of the estimated hedonic price equations to generate predicted prices of various food items. These can be compared to actual market prices to determine instances where the average consumer's valuations of nutrients are greater or less than market prices. The second is an illustration of the application of the nutrient demand equations. These are functions of socioeconomic characteristics of the household, and they permit estimation of nutrient demands based upon household composition.

MODEL BACKGROUND

As stated by Hannemann there are two basic versions of the characteristics model. Houthakker-Theil assume that goods having different characteristics are part of a single group of goods having a distribution of characteristics. A consequence of this approach is that consumer choose the quality of a good and thereby its price simultaneously. Models in the spirit of Lancaster assume each good is a separate item, and consumers obtain a bundle of characteristics through purchasing a bundle of brands. The model discussed here was originally proposed by Ladd and Suvannunt.

Interested readers are referred to Eastwood, Terry, and Brooker for a formal discussion of the theoretical model. Essential features are described below along with a presentation of those equations which are estimated. Underlying the characteristics model is the assumption that utility is attained from a set of attributes derived from market goods. Assuming that food is separable from all other goods permits an examination of this sector apart from other commodities. With respect to food, utility is derived from a set of attributes common to all foods, and under the condition that nutrients are separable from other attributes (e.g., taste and appearance), attention can focus on nutrients alone. A linear consumption technology means that the amount of each nutrient found in a good is assumed to be independent of the level of food consumed.[3]

Viewed as a one period problem, a consumer is considered to maximize utility subject to a budget constraint and a consumption technology. Solving this problem leads to a hedonic price equation in which the market price for a unit of a food is a function of the nutrients it contains and the consumer's valuations of the nutrients. A linear functional form is associated with CGCM through making a final assumption of constant marginal implicit prices of nutrients.[4] Equation (1) represents this relationship where P_i is the market price of the ith good, x_{ij} is the amount of the jth nutrient contained in a unit of the ith good, β_j is the marginal implicit price of the jth nutrient, m is the number of nutrients, and n is the number of foods.

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[3] For example, the amount of protein per ounce of milk is the same in a pint or gallon.

[4] More precisely, a given household's marginal implicit prices are assumed constant, but different households can have different, although constant, marginal implicit prices.

$$P_i = \sum_{j=1}^{m} \beta_j x_{ij} \qquad (1)$$

CGCM also has a set of nutrient demand equations in which the levels consumed, X_j, are functions of income, I, and the amounts of nutrients per unit of food items. Equations (2) represents these equations.

$$X_j = d_j(\beta_1,\ldots,\beta_m,I,x_{11},\ldots,x_{nm}) \qquad (2)$$

Anticipating the use of cross-section data to estimate (2) prompts an adjustment. Over a short period of time, it is reasonable to assume that the x_{ij} are fixed. This necessitates dropping these variables from the regression analysis described in the next section.[5]

Allowing for differences among households requires the incorporation of socioeconomic variables into the analysis. With respect to implicit prices, (1) is estimated for individual households. This yields a set of marginal implicit prices for each household, β_i^h. These predicted values can then be used in the nutrient demand equations (2). Assuming these latter equations are linear, and allowing for a vector of household characteristics (V), equation (2) becomes:

$$X_j = \delta_0 + \delta_1\hat{\beta}_1 + \ldots + \delta_m\hat{\beta}_m + I^h + V^h. \qquad (3)$$

Hannemann has shown that within the Ladd framework there is no identification problem as discussed by Rosen, and the demand functions can be estimated. Studies which have proceeded in a similar fashion include Adrian and Daniel; Ladd and Suvannunt; Ladd and Zober; LaFrance; and Morgan, Metzen, and Johnson. Based upon existing food demand research, the following set of household characteristics are included. Existing food demand research (e.g., Adrian and Daniel; Burk; Capps and Love; Raunikar, Purcell, and Elrod; and Smallwood and Blaylock) has identified the variables. Table 1 lists the variables and indicates how they are measured.

DATA

The spring wave of the 1977-78 Nationwide Food Consumption Survey was used. It covered approximately 3,300 households. Some of these households were excluded in the present analysis because their reported food purchases exceeded their incomes including food stamps. Others were excluded because of missing socioeconomic data or because the number of food items purchased was too small to permit estimation of equation (1). This last criteria was to ensure there were sufficient degrees of freedom, or that the number of food items exceeded the number of nutrients. Only 200 households were deleted in this step, and altogether the selection criteria reduced the sample to 2,164 households.

Table 1. Socioeconomic Variables

Variable	Definition
Income	1976 disposable household income.
Food Stamps	The bonus value of food stamps.
Family size	Number of people residing in the household.
Race	Respondent's race (white, black, or other). The omitted category was other.
Education	Educational attainment of the homemaker: elementary school, graduated from high school, attended some college, and college graduate. Elementary school was the omitted category.
Meal adjustment	The difference between the total number of meals served and family size multiplied by 21 (1 person, 3 meals per day, 1 week).
Dual working	Employment status of the homemaker, = 1 if employed and = 0 otherwise.
Urbanization	City, suburban, or rural. Rural was the omitted category.
Age Distribution	Proportion of household members: less than 2, between 2 and 12, between 13 and 19, between 20 and 39, between 40 and 64, and over 64. The omitted category was 40-64.
Region	Northeast, North Central, South, and West. West was the omitted category.

Fourteen nutrients are included in the data. Preliminary analysis indicated high degrees of correlation among them. Consequently, they are grouped into seven more aggregate categories which are listed in Table 2. This aggregation should not detract from the analysis. Rather, it is consistent with the view that consumers are not knowledgeable about detailed nutritional compositions of foods and may instead consider broader categories.

Estimated implicit prices for each household were obtained for equation (1) using a no intercept OLS regression program (see Eastwood, Brooker, and Terry).

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[5] An analogous situation arises with prices in Engel functions.

Table 2. Estimated Implicit Prices of Food Nutrients[a] (Standard Errors Parentheses)

Nutrient	$\hat{\beta}$	Coefficient of Variation
Protein (grams)	.00440 (.0001)	3.44
Fat (grams)	.00248 (.00003)	.69
Carbohydrates (grams)	.00021 (.00002)	4.78
Minerals (milligrams)	.00012 (.000002)	1.33
Vitamin A (international (unit)	-.00001 (.0000004)	-2.98
Vitamin B (milligrams)	.02335 (.00003)	2.64
R^2	.19[b]	

[a] For the pooled sample, a total of 101,649 food items were used. The estimated coefficients are significant at the .01 level.

[b] R^2-like value computed as the ratio of the sum of predicted variations $(\hat{P}_i - \bar{P})^2$ to the sum of the total variations, $(P_i - \bar{P})^2$.

It is not feasible to present the estimated hedonic price equations for each household. Some insight regarding household nutrient valuations can be gained through a pooled regression as shown in Table 2. In addition, this table presents the coefficients of variation for the seven nutrients for the β_j^h obtained from the individual household regressions. All of the estimated coefficients for the pooled sample are highly significant, and the R^2 is fairly high, especially in light of cross-section data for individual households. The coefficients of variation column indicates that there appears to be enough variation across households for these estimates to be used in the next set of regressions.

Each estimated coefficient in Table 2 is a measure of the average household's valuation of the respective nutrient. Positive coefficients indicate the incremental amount the representative household is willing to pay for an additional unit of the nutrient. For example, the average household is estimated to be willing to pay $.004 for an additional gram of protein. The negative coefficient for vitamin A may be due to its presence in a very limited number of foods and small servings provide all of the RDA [Pennington]. It may be, then, that consumers are not concerned with vitamin A in their diets, yielding a negative coefficient.

Given the average implicit prices of the nutrients, how well does the pooled sample equation predict market prices? An indication is provided in Table 3. Selected items from various food categories are shown. Using the estimated coefficients of Table 2 multiplied by the s_{ij} provided in the NFCS generated the predicted prices of food items associated with (1). Consequently, the predicted prices represent average predicted prices, since the coefficients were obtained from the pooled survey data. Predicted prices reflect, on average, the valuation consumers give to the respective food item based upon nutritional content alone.

Table 3. Estimated and Actual Prices: Selected Foods, 1977

	Food Item				
Nutrient	Steak* (lb)	Milk (gal)	Tomatoes (lb)	Bread (lb)	Oranges (lb)
Protein	$ .31	$ .52	$ .02	$ .17	$ .01
Fat	.04	.34	0.00	.04	0.00
Carbohydrates	0.00	0.00	0.00	.05	.01
Minerals	.08	.86	.02	.11	.02
Vitamin A	0.00	0.00	0.00	0.00	0.00
Vitamin B	.39	.34	.10	.42	.05
Vitamin C	0.00	.09	.16	0.00	.27
Total (predicted price)	$ .86	$2.15	$ .30	$ .79	$ .36
Actual avg. 1977 price	$1.83	$1.68	$ .68	$ .60	$ .22

*U.S. choice sirloin steak.

Whenever the predicted price is greater than (less than) the actual price, an interpretation is that the average consumer's valuations of the nutrients contained in the food are greater than (less than) the market's valuation. For example, consumer valuation of a pound of U.S. choice sirloin steak is less than the market price. Furthermore, its valuation is based primarily on protein and B vitamins. This result is consistent with declining beef consumption in recent years. Milk is also undervalued by the market, and its consumer valuation reflects a much broader base of nutrition. The discrepancies for tomatoes and oranges may be due, in part, to seasonal variations in prices versus an annual average.

Given the food expenditure data and the nutritional content of foods, levels of nutrient consumption can be generated. These values are the dependent variables in (3). Given the β_j^h and other respective household data, weighted least squares can be used to generate estimated coefficients.[6] Table 4 (on the following page) presents the results. R^2s in every case indicate relatively high proportions of the total variations have been explained by the respective equation, given cross-section household level data. Notice that none of the intercepts is significant. This is consistent with a household having no income, food stamp bonus, net meals, or members having no nutrient demand.

Five of the nutrients have significant own-price coefficients. Of these, four have their expected negative signs: fat, minerals, B vitamins, and vitamin C. In these instances increases (decreases) in the implicit own-prices of nutrients result in decreases (increases) in quantities of the respective nutrients consumed. Vitamin A has a significant positive coefficient. This is consistent with the sign reversal noted in the hedonic price equation.

Very few significant cross-price effects are present. They are also negative and relatively small when significant. In terms of significant cross-price effects, nutrient levels of protein and B vitamins are most responsive to price changes. Carbohydrate levels, on the other hand, are the least affected. Price changes in fats and carbohydrates have the broadest impacts across nutrients. Vitamins A and C are associated with smaller price effects on nutrition levels. Space limitations preclude presenting the elasticities for significant coefficients, but they indicate inelastic demands and complementary cross-price effects.

Income effects are all positive and significant, except for carbohydrates. Although not shown, the associated income elasticities indicate normal goods. Thus, increases in income are estimated to lead to less than proportional increases in nutrient demands, except for carbohydrates. Similar interpretations apply to the food stamp bonus coefficients, with the exception of vitamin C. These coefficients are larger than those for income, leading to the inference that a dollar increase in food stamps has a larger effect on nutrient levels than a dollar increase in income. This suggests that the program was quite successful in raising the nutrient intakes of the poor.

Turning to the other independent variables, their effects can be summarized easily. Family size is always positive and significant. Race has a varying impact on nutrition demand. Blacks vis-a-vis whites demand significantly more protein, fat, and vitamins A and C. Whites consumed significantly more fat, minerals, vitamin A, and B vitamins than other race categories. Educational level of the homemaker has a varied impact indicating that nutritional awareness is not an increasing function of educational attainment. Meal adjustment is always positive and significant. The results also indicate that the homemaker working outside the home does not lead to increased nutrition demands. Finally, suburban and city residents demand significantly more of all nutrients except fat and carbohydrates.

The research can be used to estimate nutrition demand by the specific composition of a household. For example, Table 5 presents predicted household nutrition demands utilizing the estimated coefficients of Table (4). They are for the following household situation. Implicit price values of the nutrients ($\hat{\beta}_i$) are the average estimated pooled household values shown in Table 2. This household has the average income of the sample. There is one child between 2 and 12, and the parents are between 20 and 39. The homemaker has some college education, household members ate the average number of meals away from home, it is a dual working household, it is white, and the residence is either a city or rural area.

Table 5 illustrates how the results can be used to generate estimates of nutrition demand on the basis of socioeconomic characteristics. For example, the differences between the columns estimate the extent of the differences in nutrition demands on the basis of residence. The hypothetical rural household consumes less of all nutrients except for carbohydrates than its city counterpart.

Table 5. Estimated Nutrient Demands for a Three-Person Household for a Week[a]

Nutrient	Residence	
	City	Rural
Protein (grams)	1,727	1,621
Fat (grams)	2,387	2,286
Carbohydrates (grams)	5,458	5,509
Minerals (grams)	598	573
Vitamin A (hundreds of international units)	1,443	1,248
B vitamins (milligrams)	277	247
Vitamin C (milligrams)	2,400	2,018

[a] Household has average estimated implicit prices, income and meal adjustment. The homemaker has some college education and works outside the home. It is a white household with two adults between 20 and 39 and one child between 2 and 12.

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[6] Using estimated prices in this equation introduces the problem of stochastic regressors. The extent of the problem depends on the degree of correlation between the stochastic variables and their errors. Weighted least squares are used because estimation occurs across households, and an adjustment for NFCS sampling procedures is required.

Table 4. Nutrient Demand Equations: Nationwide Food Consumption Survey, Spring, 1977

Independent Variables	Protein (gm)	Fat (gm)	Carbo-hydrates (gm)	Minerals (mg)	Vitamin A (I.U.)	Vitamin B (mg)	Vitamin C (mg)
Intercept	-40.85	-21.70	806.92	-1,757.91	12,333.45	47.16	298.73
	(.29)[a]	(.10)	(1.58)	(.38)	(.66)	(.96)	(1.00)
Imputed prices ($.001)							
Protein	-6.16[b]	-11.33[b]	-53.124[b]	-508.76[b]	-317.98	-36.33[b]	-5.22
	(1.93)	(2.29)	(4.65)	(4.87)	(.77)	(3.30)	(.78)
Fat	.13	-35.81[b]	-74.84[b]	-488.75	-723.67	-44.00	-7.85
	(.01)	(2.02)	(1.82)	(1.30)	(.49)	(1.11)	(.33)
Carbohydrates	-8.24	6.45	-44.60	-598.06	-3,333.67	-83.14	-25.97
	(.53)	(.27)	(.80)	(1.17)	(1.65)	(1.54)	(.80)
Minerals	-158.27	-264.55	-1,499.63[b]	-18,214.41[b]	15,177.27	-67.41[b]	-113.45
	(1.49)	(1.61)	(3.95)	(5.25)	(1.10)	(1.84)	(.51)
Vitamin A	1,104.03[b]	1,241.19[b]	612.12	15,572.22	246,640.03[b]	47.61	2,283.79[b]
	(2.71)	(1.97)	(.42)	(1.17)	(4.67)	(.34)	(2.69)
Vitamin B	-2.16[b]	-2.21	-9.78[b]	-107.89[b]	-251.46[b]	-1.72[b]	-2.68
	(1.84)	(1.22)	(2.33)	(2.82)	(1.65)	(4.26)	(1.10)
Vitamin C	5.85	18.47[b]	28.56	28.27	-533.79	-11.48	-22.18[b]
	(.98)	(1.99)	(1.34)	(.14)	(.69)	(.56)	(1.78)
Income ($100)	1.29[b]	1.55[b]	.60	33.15[b]	71.19[b]	.39[b]	2.39[b]
	(5.36)	(4.15)	(.70)	(4.22)	(2.28)	(4.74)	(4.76)
Food stamp bonus	2.34[b]	2.36[b]	1.90	79.15[b]	309.15[b]	.78[b]	2.47
	(2.66)	(1.73)	(.60)	(2.75)	(2.71)	(2.57)	(1.35)
Household size	635.27[b]	846.99[b]	2,052.87[b]	21,035.78[b]	43,413.14[b]	209.07[b]	658.33[b]
	(34.61)	(29.78)	(31.27)	(35.03)	(18.23)	(33.06)	(17.20)
Location							
City	105.72[b]	100.82	-51.27	2,577.01[b]	19,538.00[b]	30.50[b]	381.90[b]
	(2.25)	(1.38)	(.30)	(1.67)	(3.20)	(1.88)	(3.89)
Suburb	146.08[b]	153.97[b]	84.62	3,644.59[b]	14,147.28[b]	43.05[b]	314.33[b]
	(3.36)	(2.29)	(.54)	(2.56)	(2.51)	(2.88)	(3.47)
Northeast	61.84	64.12	48.94	-835.56	-2,793.41	31.47[b]	283.74[b]
	(1.14)	(.77)	(.25)	(-.47)	(.40)	(1.69)	(2.52)
North Central	52.97	53.90	78.09	-885.12	-5,872.60	26.65	-21.67
	(1.01)	(.66)	(.41)	(.51)	(.86)	(1.47)	(.20)
South	44.31	193.70[b]	382.43[b]	-317.58	-10,664.66	38.50[b]	-102.82
	(.83)	(2.33)	(1.99)	(.18)	(1.53)	(2.08)	(.92)
Net meals	580.18[b]	783.46[b]	1,658.78[b]	16,202.83[b]	36,872.78[b]	188.20[b]	608.62[b]
	(22.39)	(19.51)	(17.89)	(19.11)	(10.95)	(21.08)	(11.26)
Education							
High School	107.82[b]	78.75	-7.14	3,028.32[b]	1,317.24	20.77	-37.28
	(1.93)	(.91)	(.04)	(1.66)	(.18)	(1.08)	(.32)

Table 4 (Continued)

Independent Variables	Protein (gm)	Fat (gm)	Carbo-hydrates (gm)	Minerals (mg)	Vitamin A (I.U.)	Vitamin B (mg)	Vitamin C (mg)
Attended College	67.59 (.99)	-25.42 (.24)	-197.29 (.81)	3,624.27 (1.62)	14,113.21 (1.59)	-1.98 (.08)	201.46 (1.41)
College Graduate	-52.87 (.71)	-270.85[b] (2.39)	-239.54 (.90)	-56.47 (.02)	4,480.77 (.46)	-43.11[b] (1.67)	292.29[b] (1.87)
Percent age distribution							
2 or younger	-1,274.93[b] (6.54)	-1,501.94[b] (4.97)	-2,269.36[b] (3.25)	-26,994.97[b] (4.23)	-86,541.57[b] (3.42)	-435.70[b] (6.49)	-828.15[b] (2.04)
2 through 12	-542.73[b] (4.25)	-634.51[b] (3.21)	-437.91 (.96)	-18,279.44[b] (4.38)	-48,437.36 (2.93)	-126.26[b] (2.87)	-214.11 (.80)
13 through 19	257.38[b] (1.84)	263.05 (1.21)	1,123.08[b] (2.25)	8,231.85[b] (1.80)	-19,255.81 (1.06)	40.81 (.85)	409.51 (1.41)
20 through 39	-21.59 (.33)	-2.16 (.02)	-149.28 (.63)	-1,010.79 (.47)	-15,057.23[b] (1.76)	-24.50 (1.08)	-373.39[b] (2.72)
65 and older	-147.49[b] (2.13)	-350.34[b] (3.27)	-246.85 (1.00)	-1,444.19 (.64)	-1,983.72 (.22)	-45.82[b] (1.92)	-71.68 (.50)
Race							
White	155.03 (1.64)	464.31[b] (3.16)	356.49 (1.05)	11,071.22[b] (3.57)	20,446.14[b] (1.66)	47.52 (1.46)	305.40 (1.55)
Black	267.26[b] (2.49)	586.64[b] (3.53)	-50.18 (.13)	3,122.07 (1.64)	63,092.70[b] (4.54)	60.50 (1.64)	419.71[b] (1.88)
Homemaker employed	-2.72 (.07)	-25.78 (.42)	-51.30 (.36)	1,118.24 (.86)	-4,010.25 (.78)	-5.25 (.38)	-90.66 (1.10)
R^2	.64	.58	.60	.64	.32	.63	.35
F	131.96	100.22	108.83	130.08	35.08	122.93	39.73

[a] Items in parentheses are t-ratios.

[b] Significant at .05 level.

CONCLUSIONS

A characteristics model of consumer choice has been developed and estimated. This model is for a situation in which the goods being studied provide a common set of attributes without any unique characteristics. Individual household data were used to obtain estimates of a household's implicit valuations of nutrients. These results were used to generate predicted market prices. Comparisons of the predicted prices to the actual market prices suggested instances where the market price was either greater or less than the average consumer's valuation.

Nutrient demand equations were estimated. Results indicated the relevance of the hedonic approach. The overall fits were quite good. The limited impacts of nutrient valuations, as reflected in the magnitudes of significant coefficients, is consistent with the role of nutrients as necessities. The effects of changes in income and household characteristics can be projected, assuming there are no changes in consumer preferences over time. Increases in income will not lead to very large increases in nutrient demand. An older population will have a significant negative effect on protein, fat, and B vitamins. Changes in the racial composition of the population toward a higher proportion of blacks will increase protein, fat, and vitamins A and C consumption. Continued increases in the proportion of working homemakers will not affect nutrient demand levels.

REFERENCES

1. Adrian, John L., and Raymond Daniel (1976). "Impact of Socioeconomic Factors on Consumption of Selected Food Nutrients in the United States," American Journal of Agricultural Economics, 58:31-38.

2. Burk, Marguerite C. (1961). Influences of Economic and Social Factors on U.S. Food Consumption, Burgess Publishing Company, Minneapolis.

3. Capps, Oral, and J. M. Love (1983). "Determinants of Household Expenditure on Fresh Vegetables," Southern Journal of Agricultural Economics, 15:127-32.

4. Eastwood, David B., Danny E. Terry, and John R. Brooker (1986). "Household Nutrient Demand: Use of Characteristics Theory and a Common Attribute Model," Southern Journal of Agricultural Economics 18:235-246.

5. Hannemann, Michael W. (1982). "Quality and Demand Analysis," New Directions in Econometric Modeling and Forecasting in U.S. Agriculture, Gordon C. Rausser, ed., Elsevier Science Publishing Company, New York.

6. Houthakker, Hendrick (1951-52). "Compensated Changes in Quantities and Qualities Consumed," Review of Economic Studies, 19:155-64.

7. Ladd, George W. (1982). "Survey of Promising Developments in Demand Analysis: Economics of Product Characteristics," New Directions in Econometric Modeling and Forecasting in U.S. Agriculture, Gordon C. Rausser, ed., Elsevier Science Publishing Company, New York.

8. Ladd, George W., and Veraphol Suvannunt (1976). "A Model of Consumer Goods Characteristics," American Journal of Agricultural Economics, 58:504-510.

9. Ladd, George W., and Martin Zober (1977). "A Model of Consumer Reaction to Product Characteristics," Journal of Consumer Research, 4:89-101.

10. LaFrance, Jeffery (1983). "The Economics of Nutrient Content and Consumer Demand for Food," unpublished Ph.D. dissertation, University of California, Berkeley.

11. Lancaster, Kelvin (1966). "A New Approach to Consumer Theory," Journal of Political Economy, 74:132-157.

12. Morgan, Karen J., Edward Metzen, and S. R. Johnson (1979). "An Hedonic Index for Breakfast Cereals," Journal of Consumer Research 6:67-75.

13. Pennington, J. T. (1976). Dietary Nutrient Guide. Westport, CT: Avi Publishing Co.

14. Raunikar, Robert J., J. C. Purcell, and J. C. Elrod (1966). Consumption and Expenditure analysis for Fruits and Vegetables in Atlanta, Georgia, Georgia Agricultural Experiment Station Technical Bulletin No. 53.

15. Rosen, Sherwin (1974). "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition," Journal of Political Economy, 82:34-55.

16. Schrimper, Ronald A., and Christine J. Hager (1985). Changes in Nutrient Intakes of Individuals in the South Relative to the United States, 1956-1977, Department of Economics and Business, The North Carolina State University Economics Information Report No. 72.

17. Searce, W. K., and R. B. Jenson (1979). "Food Stamp Program Effects on Availability of Food Nutrients for Low Income Families in the Southern Region of the U.S.," Journal of Agricultural Economics, 11:113-20.

18. Smallwood, David, and James Blaylock (1984). Household Expenditures for Fruits, Vegetables, and Potatoes, Economic Research Service, U.S. Department of Agriculture Technical Bulletin No. 1690.

19. Suvannunt, Veraphol (1973). "Measurement of Quantities and Prices of Product Qualities," unpublished doctoral dissertation, Iowa State University.

20. Terry, Danny (1985). "An Evaluation of Characteristic Theory: Implicit Prices and the Demand for Nutritional Attributes," unpublished doctoral dissertation, University of Tennessee.

21. Theil, Henri (1952). "Qualities, Prices, and Budget Inquiries," Review of Economic Studies, 19:129-147.

FEMALE LABOR FORCE PARTICIPATION AND EXPENDITURES ON FOOD AWAY FROM HOME

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ABSTRACT

Increases labor supply of married females decrease the time available for household production, including meals. A sample of dual earner households is used to analyze the effects of the price of time and other variables on expenditures for food away from home (FAFH). Tobit corrects for sample selection bias and allows the estimated coefficients to be broken down into two components. The conditional effect is found to be more important than the participation effect on FAFH expenditures.

Increasing labor supply of females in two adult households has implications for how home production activities are conducted. A rise in the wage rate increases the cost of time, including time spent in home production. Economic theory predicts that when the price of time increases, a household may substitute out of the use of time and into the use of purchased inputs in home production. Decreases in time available for household production can be linked to food away from home (FAFH) consumption as a less time intensive approach to meal production. This study concentrates on how changes in labor supply patterns affect expenditures on FAFH as an input into home meal production.

Statistics indicate reasons why one might expect changes in the way meals are produced in the household. In 1960, 29.6 percent of white, married households had two earners. By 1980, that figure had increased to 55.0 percent. The figures for blacks are 40.8 percent and 63.1 percent respectively (Hagye 1983). During the same period, the share of food expenditures spent on FAFH has remained relatively stable (USDA 1985). This constant share constitutes a real increase of 15.8 billion dollars over the twenty-three year period, 1960-1983.

Review of Literature

Previous research has included both single and dual earner households in the analysis of FAFH expenditure behavior. If single and dual earner, two adult households, elicit different behavior, then examining dual earner households separately can yield information not previously available pertaining to this growing segment of the popluation.

Two basic approaches have been taken in the estimation of the effect of female labor supply and other socio-economic variables on consumption of FAFH. Both approaches are based on household production theory. The first approach utilized ordinary least squares regression (OLS) analysis (Prochaska and Schrimper 1973; Redman 1980). These studies generally report positive effects of income and negative effects due to family size and the presence of small children. The effect of the price of time, measured by the wage rate in Prochaska and Schrimper's study and by employment of the wife, a proxy for the price of time, in the Redman study prove inconclusive. In the former case, wage elasticities ranged from negative to positive, depending on the subsample utilized. In the latter, the variable was insignificant.

The second approach to estimation has been to use limited dependent variable techniques (LDVT) to estimate the effect of female labor supply and other socioeconomic variables on FAFH consumption (Kinsey 1983; McCracken 1984; Lee and Brown 1986). Tobit and two-stage Probit estimation are relevant in the case of FAFH expenditures, since in any survey period it is expected that not all respondant will make these types of purchases. This indicates a sample is censored and LDVT become necessary (Maddala 1983). Compared with OLS estimation, the studies using LDVT also report positive income effects and negative effects of family size and presence of small children. Kinsey utilized employment of the wife as a proxy for the price of time and found the variable to be insignificant. McCracken found positive and significant wage elasticities. Lee and Brown found that wife's employment depressed expenditures on FAFH.

Conflicts in previous research make it difficult to sort out the effects of increases in the price of a woman's time on FAFH expenditures. When the wage rate is omitted from the estimation, the income effect also includes the effect of a change in the wage rate on time use. OLS estimation, even when it includes the opportunity cost of time, provides biased and inconsistent estimates of parameter coefficients (Maddala 1983). When the price of time is measured by hours of labor supply in a household production framework, the estimates suffer from simultaneous equation bias, since the framework assumes that all uses of time and goods are simultaneously determined.

The present study utilizes pieces of previous research in its formulation along with a more recent data source. A household production model is used in which groceries and FAFH are permitted to be direct substitutes for one other. The opportunity cost of a woman's time is explicitly accounted for, as are socio-economic variables which account for productivity and taste differences across households. An attempt is made to identify directly prices of FAFH and of substitute food at home (FAH), as well as the usual method of including regional dummy variables to account for price differences due to geographic area. Tobit estimates are obtained. Finally, elasticities representing the effect of the price of time on the consumption of FAFH if there are FAFH purchases and the effect the price of time on the probability of consuming FAFH are calculated.

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Theoretical model

The theory of consumer behavior provides a framework for analyzing how increases in female labor supply affect the way in which household goods are produced. Commodities which yield utility, such as meals and all other household produced goods, are produced using non-market time and inputs purchased in the marketplace. Utility is maximized subject to a households' total time and income constraints. If one considers that meals can be produced at home, or purchased in the market, and that non market time can be used in preparing meals at home or for ordering and waiting for restaurant meals, the production function for meals can be written as a function of the inputs. If all other things are produced with time and other purchased inputs, then the production function for those goods is also a function of the inputs. Implicit in these functions is the assumption of no joint production. The time used to obtain a restaurant meal is only an input into the production of meals, not a source of utility. In addition shopping and food preparation at home do not produce utility. The model can be written

$$\text{maximize } U[M(X_r, X_m, h), O(X_o, h_o)] \quad (1)$$

subject to

$$wM_s + v = P_r X_r + P_m X_m + P_o X_o \quad (2)$$

$$H = h + h_o + M_s \quad (3)$$

where X_r = restaurant food
X_m = groceries
h = time used in meal production
X_o = purchased inputs in other home production
h_o = time inputs into other goods
w = wage rate
M_s = labor market time
P_r = price of restaurant food
P_m = price of groceries
P_o = price of other goods
H = total available time

Empirically estimating this model can test the hypotheses that restaurant and grocery purchased inputs are substitutes and that increases in the price of a woman's time and increases in non wage income impact positively on expenditures for FAFH.

The Data

The 1980 Consumer Expenditure Survey is used. The sample is representative of the U.S. population. Data was collected on demographic and socio-economic variables, as well as on expenditures on food away from home (FAFH), not including school lunches, alcohol, or snacks. A subsample of two adult, two earner households was selected. Variables computed from the sample include wage of the wife, calculated using salary, hours worked, and weeks worked information. This was deflated by the price of all other things, or left as is, depending on the estimating equation used. The price information was calculated using regional consumer price indices for food at home (FAH), food away from home (FAFH), and all other things (Bureau of Labor Statistics 1980). Regional dummy variables were included in the specification which did not include prices explicitly. The non-wage income variable was also computed, using before tax income minus salary income. Since women have historically been the major meal preparer in two adult households, male wage income is included in the wife's non wage income term. In the estimating specification including prices, this variable was deflated by the price of other things[1]. In order to account for productivity and taste differences, family composition variables are included. Productivity in a household can increase when there are children in the family. For example, preparing the same meal for four versus two persons does not take twice as much time. In addition, a dummy variable for race and occupation of the wife were included to account for taste differences. Means of variables used in the analysis are presented in Table 1.

The final subsample included 1131 observations with variables: WAGESP= wage of the wife; WAGESPD= deflated wage of the wife; PROFSP= occupation dummy (white collar= 1); RACESP= race of the spouse (1= white); KIDS18= number of children under age 18; AGE64=number of adults over age 64; NWYMALE= non-wage income, including husband's salary; NWYMALED=NWYMALE deflated; PHOME= price of FAH (calculated by dividing the CPI for FAH by the CPI purged of food); PAWAY=price of FAFH (calculated as above, subsituting FAFH for FAH); EXPFAFH= expenditures for FAFH, excluding snacks, alcoholic beverages, and school lunches; NE NC W S= Dummy variables for region.

Table 1. Means and Standard Deviations of variables affecting expenditures on food away from home in the U.S., 1980-81.

VARIABLE	MEAN	STANDARD DEVIATION
KIDS	18.980	1.080
AGE	64.042	.234
WAGESP	6.040	4.230
WAGESPD	.044	.032
NWYMALE	18329.000	9608.900
NWYMALED	136.220	71.9400
PAWAY	.973	.0077
PHOME	.983	.0120
EXPFAFH	24.690	20.0500
% WITH EXPFAFH	.849	

Empirical model

The theoretical model implies that demand for X_r can be written

$$X_r = f(\text{own price, prices of complements and substitutes, nonwage income; productivity shifters}) \quad (4)$$

Two empirical specifications are included. The first attempts to include prices explicitly in the specification, as theory indicates that a quantity dependent demand function is a function of prices and income. The second specification simply uses regional dummy variables as a proxy for price variation. Both approaches were tried because price variables calculated from the consumer price index reveal little variation and therefore need to be compared with the historical method of accounting for price differences in cross section in order to determine superiority.

Given that the data only has information on expenditures on FAFH, the dependent variable, quantity of FAFH purchased, must be multiplied by the price of FAFH. The same multiplication is made for each exogenous variable. The resulting linear expenditure functions are

$$P_rX_r = b_0 + b_1KIDS18 + b_2AGE64 + b_3RACESP + b_4PROFSP + a_5PAWAY + b_6PHOME + b_7NWYMALED + b_8WAGESPD \quad (5)$$

$$P_r\ X_r = b_0 + b_1KIDS18 + b_2AGE64 + b_3RACESP + b_4PROFSP + b_5NE + B_6NC + b_7W + b_8WAGESP + b_9NWYMALE \quad (6)$$

$$\text{where } b_i = a_i * P_r \text{ for } i = 1,2,\ldots,10$$

Computing elasticities from expenditure functions is straightforward:

$$\frac{\partial P_rX_r}{\partial wagesp}\ \frac{wagesp}{P_rX_r} = \frac{b_8\ wagesp}{P_rX_r} \quad (7)$$

but, since b_8 is equal to a_8P_r,

$$\frac{a_8\ P_r\ wagesp}{P_rX_r} = \text{wage price elasticity} \quad (8)$$

A similar exercise can be used to compute income elasticities.

Since the sample has characteristics of a censored sample, there are no observations for the dependent variable if expenditures on FAFH equal zero. Therefore Tobit estimation, which accounts for the truncation of the normal error term which occurs with a zero cut off, is used (MacDonald and Moffitt 1980). It is noted here that since the estimate is the sum of two parts, it IS NOT equal to the change in expenditures on FAFH given a change in an exogenous variable, and calculating elasticities in the usual way from the results is inappropriate. However, the Tobit estimated coefficients can be broken down into two parts. The total change in the dependent variable is the sum of two parts: the change in expenditures on FAFh for those observations above zero, weighted by the probability of having a non zero value, and, the change in the probability of having a non zero observation weighted by the expected value of expenditures on FAFH given it is above zero (Judge, et. al. 1983).

The two pieces of information contained in the Tobit coefficients can be expressed in elasticity form. The conditional elasticity expresses the change in EXPFAFH due to the influence of the exogenous variables given EXPFAFH is positive. The elasticity of the probability of consumption expresses the change in EXPFAFH due to becoming a participant in the FAFH market (Huang and Raunikar 1983). The decomposition of Tobit estimated coefficients can be derived following MacDonald and Moffit and Huang and Raunikar (1984, 1983).

The derived conditional elasticity associated with positive expenditures is

$$(\partial[Y^*]/\partial X_i)(X_i/e[Y^*]) \quad (9)$$

where Y^* = expected value of EXPFAFH for those above zero
X_i = socioeconomic factors affecting EXPFAFH

and the participation elasticity expressing the change in the probability of having positive expenditures on FAFH is

$$(\partial F(z)/\partial X_i)(X_i/F(z)). \quad (10)$$

where $F(Z)$ = cumulative normal density function.

Results

Results of Tobit estimation are presented in Table 2. Estimates did not differ significantly for variables included in both equations, with the exception on non wage income. However, explicit specification of price variables in Model 1 led to unexpected results. Both PAWAY and PHOME were insignificant and were of a sign other than was hypothesized^2. One explanation is that the lack of variation in prices across region when measured by the CPI led to poor prediction. The inclusion of regional dummy variables as a proxy for price also yielded insignificant results. In addition to little price variation captured in the dummy variables, region captures other differences as well.

The nonwage income variable did not perform well in model 1, while it was significant in model 2, and positive in sign, as expected. As income rises, EXPFAFH rise, indicating FAFH is a normal good. The coeficient on WAGESP is positive and significant. This supports the hypothosis that goods may be substituted for time in meal production.

Given the statistical superiority of Model 2, it is used in the remainder of the analysis. The coefficient on PROFSP is positive in sign, though not as significant as expected. Separating white-collar workers from blue collar workers was an attempt to incorporate both education and effect of present job on EXPFAFH. RACESP was positive, indicating that white persons are more likely than other races to have expenditures on

FAFH. This is explained by taste differences, though specific effects of other variables by race could be extracted if the sample were split by race and the equations re-estimated. KIDS18 was of the expected sign, but insignificant. AGE64 was insignificant, though positive, perhaps indicating that increased disposable income associated with age affects preferences for FAFH positively.

Table 2. Tobit results estimating expenditures on food away from home.

VARIABLE	MODEL 1	MODEL2
CONSTANT	14.703 (81.096)*	9.3866 (2.5459)
KIDS18	-1.0801 (.61287)	-1.1221 (.61316)
AGE64	-.27527 (2.7568)	.18920 (2.7769)
RACESP	2.9535 (1.9452)	3.0620 (1.9452)
PROFSP	1.6626 (1.5563)	1.7184 (1.5549)
PAWAY	33.033 (111.76)	-
PHOME	-38.462 (74.687)	-
NE	-	-1.8111 (1.8472)
NC	-	0.24302 (1.7198)
W	-	-1.2041 (1.7966)
NWYMALED	-0.46446E-01 (.91843E-02)	-
NWYMALE		.34295 (.68045E-04)
WAGESPD	103.59 (21.628)	-
WAGESP		-.79565 (.16114)

* Standard errors are presented in parentheses.

Decomposition of the Tobit estimates from the Model 2 can yield more information. Specifically, the marginal effects of being above the limit, in this case having positive expenditures for FAFH, can be separated from the marginal effects of a change in the probability of having positive FAFH expenditures. Calculating the proportion of the total marginal effect due to the conditional marginal effect and the market participation effect is simply the ratio of each effect to the total marginal effect. For WAGESP, 82 percent of the total effect can be explained by those who already consume FAFH (.552/.675), while 18 percent is due to the market participation effect. For NWYMALE, 82 percent of the variation is due to those above the limit observation, and 18 percent was due to the market participation effect. To examine whether different incomes affect EXPFAFH differently, income levels one standard deviation above and below the mean were disaggregated into their respective effects[3].

For high incomes (one standard deviation above the mean), the conditional marginal effect accounts for 85.2 percent of the total effect, while for lower incomes it accounts for 74.9 percent. This leads one to believe that there are differences in income class that affect EXPFAFH differently. For lower income households (one standard deviation below the mean), the participation effect increases, although this study indicates that for all groups, the effect of those already purchasing FAFH is greater than that of the probability of consuming.

Income and wage elasticities calculated at the means of and one standard deviation above and below the mean income of the data are presented in Table 3. Because there are two parts to every Tobit estimated coefficient, there are two wage and income elasticities associated with each level of wages or income. The conditional elasticities are found to be greater than the participation elasticities in every case, as expected. Given the large proportion of dual earner households already consuming FAFH, the probability of entering the market for the first time is low. The results indicate that a 1 percent change in WAGESP will increase EXPFAFH by .145 for those already in the market, while a 1 percent change in WAGESP affects the probability of entering the FAFH market by .028 percent. The income elasticities indicate that for two adult earner households, a one percent increase in NWYMALE increases EXPFAFH by .199 percent, while a one percent increase in NWYMALE increases the probability of consumption of FAFH by .0016 percent. These results indicate that for two adult earner households increases in non wage income, including the husbands' wages, impact positively on EXPFAFH, a normal good.

Table 3. Conditional and Probability elasticities for EXPFAFH, U.S., 1980.

VARIABLE	CONDITIONAL ELASTICITY	PROBABILITY ELASTICITY
WAGESP	.145	.028
MEAN NWYMALE	.199	.0016
HIGH INCOME	.297	.00161
LOW INCOME	.101	.0011

Summarizing, although results from a sample including only two earner housholds is not directly comparable to research which has included both single and dual earner household, this study appears to indicate that two earner households have a greater propensity to consume FAFH than single earner households when compared to the probability of consuming found in other studies. The conditional income expenditure elasticity for dual earner households explains more of EXPFAFH than does the participation elasticity. Lower income and wage expenditure elasticities than presented in other studies may indicate the length of adjustment period to changes in income and wages.

Discussion

Further research may be helpful in identifying more specific relationships between labor supply patterns and consumption and expenditures for various types of FAFH. A breakdown of FAFH into composite categories such as fast food versus full-service restaurant food would reveal information as to where the food dollar is being spent. A larger study might also look at both single and dual earner households as separate groups. Previous research including both types of households found that the effect of entering the food away from home market had a greater impact on total FAFH expenditures than did the effects of the exogenous variables on those who already purchased FAFH. This study, which included only dual earner, two adult households found the opposite. One can infer that for dual earner households marketing strategies which influence the spending per purchase of FAFH will be more effective than a strategy which aims to increase the total number of purchases of FAFH. Future research may also include a more recent data set. The latest data available in previous research is the 1980-81 Consumer Expenditure Survey. Over the last five years, the dual earner household has become the norm, and not a peculiar occurrence in households with certain socioeconomic characteristics. Over this time period, it is possible that society has adjusted to dual earner households as a form of consumer unit which has not socioeconomic boundaries. Bother marketers and households, then, may have made adjustments over time. For this reason, recent data is necessary to compare with older studies in order to identify differences and changes in food consumption patterns. Finally, improvements in this study include finer specifications of certain exogenous variables, including prices. If one believes that there are differences in prices, even in cross section, then collection of actual price data is ideal. Disaggregating children's age categories further will most likely separate the conglomerate effects of children as a whole, since young and older children can be expected to affect time use and expenditures differently.

This study forms the basis identifying the type of detailed information necessary in gaining a clearer picture of who is consuming what type of food away from home and how socioeconomic, demographic, and labor supply characteristics of household affect expenditures on food away from home. This includes a breakdown of types of FAFH purchased and detailed family composition variables. Estimation with all groups combined into a single sample may not reveal information which marketers can use to better serve individual market segments; nor will it give the information necessary for consumers to better plan their food expenditures.

BIBLIOGRAPHY

Hagye, Howard, (1983), "Married Couples Work and Income Patterns," Monthly Labor Review, 106(3), December, pp. 26-29.

Haung, C. and R. Ruanikar, (1983), "Household Fluid Milk Expenditure Patterns in the South and United States," Southern Journal of Agricultural Economics, December, pp. 27-33.

Judge, G., W. Griffiths, R. Hill, H. Lutkepohl, and T, Lee, (1985), The Theory and Practice of Econometrics, (New York: John Wiley and Sons).

Kinsey, Jean, (1983), "Working Wives and the Marginal Propensity to Consume Food Away From Home," American Journal of Agricultural Economics, 65(1), February, pp. 10-19.

Lee, J-Y, and M. Brown, (1986) "Food Expenditures at Home and Away from Home in the United States: A Switching Analysis," Review of Economics and Statistics, 68(1), February, pp. 142-147.

McCracken, Vicki, (1984) An Econometric Analysis of the Away From Home Food Market, Unpublished Doctoral Dissertation, Purdue University.

Prochaska, F., and R. Schrimper, (1973), "Opportunity Cost of Time and Other Socio-economic Effects on Away From Home Food Consumption," American Journal of Agricultural Economics, 55(4), part 1, November, pp. 595-603.

Redman, Barbara, (1980), "The Impact of Womens' Time Allocation on Expenditures for Meals Away From Home and Prepared Foods," American Journal of Agricultural Economics, 62(2), May, pp. 234-237.

Strober and Weinberg, (1980), "Strategies Used by Working and Non-Working Wives to Reduce Time Pressures," Journal of Consumer Research, Vol 6, March, pp. 338-346.

United States Department of Agriculture, (1985), National Food Review, Fall, NFR-31.

ENDNOTES

1. Deflating the price and income variables necessarily imposes the homogeneity restriction on the estimates including prices. The reason for the deflating procedure, however, is to decrease the multicollinearity between prices when the price of other things is an index purged of the price of food.

2. Given that Tobit is a maximum likelihood estimator, the usual t-tests of significance are not appropriate. The t-ratios presented are comparable to those used in OLS. They

are most likely based on a Wald, likelihood ration test, or Lagrange multiplier test.

3. This method was chosen as to be as objective as possible about how to groups income. In addition, any regression technique gives the most reliable estimates near the means of the data. To keep statistical integrity and gain reliable answers, examination of "extremes" was restricted to two-thirds of the data.

THE ECONOMICS OF NUTRITION OF U.S. LOW-INCOME HOUSEHOLDS

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ABSTRACT

This paper estimates the impact of price and income on low income household demand for a variety of foods. The demands are then translated into nutrition status for low income households. To do this, a system of demand equations is estimated using the Nationwood Food Consumption Survey from 1977-78.

INTRODUCTION

The economic literature on food and nutrition has largely focused on the impact that food assistance programs have on the diet of the poor [13, 8, 6, 3]. However, very little research has estimated the impact that family composition, food prices and income have on the demand for specific types of food among the U.S. poor.

In recent years evidence on the role of diet in the etiology of chronic diseases has been accumulating, and now food consumption patterns themselves are recognized as an important health concern [10]. To understand nutrient consumption of the poor, the food consumption of the poor, and the role that price, income and family composition changes play in dietary patterns, it is useful to estimate a system of demand equations for a variety of foods using data collected on the U.S. poor. The demand system estimated here uses the Nationwide Food Consumption Survey, Low Income Supplement (NFCS) for 1977-1978.

Cross-section estimates of demand systems are rare. The assumption that prices are constant in cross-section has generally been made as a way to deal with the absence of data on prices faced. However, recent literature has argued that there is considerable price variation within and across local markets [7]. In this paper a household price for food items is computed and used in the demand system estimation.

Modelling the Demand for Food

Most of the food demand literature relies on single equation estimation. This approach is suitable when the focus is on one particular food or all food taken together. However, when considering household demand for the basket of foods, a complete demand system which can take into account the simultaneity of the food consumption choices is more appropriate.

The model estimated here is the Almost Ideal Demand System (AIDS) developed by Deaton and Muellbauer [4]. Household composition is specified as suggested by Barten [2]. The AIDS model is a complete demand system that relates the budget share of each commodity to the logarithm of real expenditure and the logarithm of all commodity prices in the system. Real expenditure is obtained by deflating income by the prices of the goods. The specification is shown in equation (1):

$$w_i = \alpha_i + \beta_i \ln(x/P) + \sum^{j} \gamma_{ij} \ln(p_j) \qquad (1)$$

where w_i is the share of the ith good in expenditures, x is expenditures, p_j is the price of the jth good, and P is defined by equation (2).

$$P = \alpha_0 + \sum^{k} \alpha_k \ln(p_k) + (1/2)\sum\sum^{jk} \gamma_{jk} \ln(p_j)\ln(p_k) \qquad (2)$$

In the full AIDS specification this specification for P introduces substantial non-linearity into the model. We use a linear approximation to equation (2) suggested by Deaton and Muellbauer [4]:

$$\ln P^* = \sum^{l} W_l \ln(p_l) \qquad (3)$$

where W_l is the mean share of good l and p_l is the household price for good l.

We assume separability in food and other goods so that we need only deal with the food demand equations. Expenditures, x, refer to expenditures on all food. Prices and shares likewise refer to food prices and share of total food expenditure to specific foods.

Household composition is clearly an important determinant of household demand for food. Care must be taken when introducing household composition in a complete demand system so as to preserve the restrictions implied by the theory. The specification used here is one introduced by Barten [2] and further discussed by Pollack and Wales [9]. In this specification, known as demographic scaling, the demographic variables are introduced in a function modifying the price variables. In equation (1) p_i is replaced by $m_i p_i$, where m_i is a function of household composition variables. We have chosen m_i to be the function shown in equation (4)

$$m_i = \prod^{k} D_k^{\theta_{ki}} \qquad (4)$$

where D_k is one plus the number of persons in the household in each of several specified age and sex categories. The weight assigned to different household members in the consumption of one food may differ from that assigned various family members in the consumption of other foods. Thus we allow separate scaling factors for each food.

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The full specification of the demand equations, including the household composition variables is shown in equation (5):

$$w_i = \alpha_i + \beta_i \ln(x/P^{**}) + \sum^{j} \gamma_{ij} \ln(p_j m_j) \qquad (5)$$

where $\ln P^{**} = \sum^{l} W_l \ln(p_l m_l)$

Substituting (4) into (5) yields:

$$w_i = \alpha_i + \beta_i \ln(x/P^{*}) + \sum^{j} \gamma_{ij} \ln(p_j) + \sum^{k} \phi_{ki} \ln(D_k) \qquad (6)$$

where $\phi_{ki} = \sum^{j} \theta_k(\gamma_{ij} - \beta_i W_j)$.

Changes in relative prices affect w_i as indicated by the estimated values of γ_{ij}, with $\sum^{j} \gamma_{ij} = 0$ and $\gamma_{ij} = \gamma_{ji}$. The effect of changes in real total food expenditure are given by the estimated values of the β_i, with $\sum \beta_i = 0$. The β_i are positive for luxuries (income elasticities greater than one) and negative for necessities (income elasticities less than one). The effects of household composition enter the model through θ_{ki} but only ϕ_{ki} is estimable. Thus household composition effects are not truly identified. Rather the interaction of household composition, prices, and total food expenditure is estimated.

The final model form is linear and can be estimated using Ordinary Least Squares. Homogeneity is imposed on an equation by equation basis, while symmetry is imposed with cross-equation restrictions.

The Data

The data are taken from the USDA Nationwide Food Consumption Survey, Low-Income Supplement 1977/78 (NFCS). This low income sample was defined by eligibility for food stamps, with about half the sample receiving food stamps and half eligible but not participating in the program. The sample was a disproportionate probability sample of 4500 households from the 48 contiguous states.

Household data were obtained via an interview with the household member most familiar with food preparation. Data were collected on household demographic characteristics, meals served to guests, and household food consumption. For individual household members data were collected on meals eaten from household stores. The household food data relate to all food consumed by the household from household sources over the preceding seven day period. Food acquired and consumed away from the household is not included; food eaten away from home but from household stores is included. The food data include the quantity of food and the expenditure on that food. Price must be computed from the price-quantity-expenditure identity. Food consumption in this data is food disappearance and includes wastage and spoilage.

For the analysis presented here the over 2000 food items recorded in the NFCS were aggregated into eleven composite foods. These groupings were defined to represent separate foods from the point of view of the consumer as well as provide convenient nutritional groups.[4] Condiments and the beverages coffee, tea, alcohol, and sweet drinks were omitted entirely.

Composite foods were aggregated on the basis of caloric content rather than the more conventional weight units, pounds or grams. This is done because we believe consumers implicitly purchase food by number of servings, approximated better by caloric content than by physical weight. Quantity aggregation by energy content is at its best when aggregating foods with varying water content, for example aggregation of dried beans and canned beans, or aggregation of dried milk, condensed milk, and fluid milk. It is likely at its worst for aggregation of vegetables, where serving size and caloric content vary widely, as in the case of lettuce and carrots. Aggregation by calories has the further advantage that the nutrient content of food is more homogeneous when aggregation is by calories.

The food price of interest is not the price paid by the consumer for individual food items, but rather the price faced by the consumer for the composite food. This price is computed by taking the weighted average ratio of the price of each food item purchased by the household to the sample mean price for that item. The weights utilized were based on the relative contribution (over the sample) of each item to the composite food. Thus the price faced by a particular household for the ith composite food, p_i, is:

$$p_i = \sum^{j} ((p_{ij}/ P_{ij})(W_{ij}/(\sum^{j} W_{ij})) P_i) \qquad (7)$$

where p_{ij} is the price paid by the household for the jth specific item in the ith composite food group, calculated from the household's expenditures on the specific item given the quantity purchased; P_{ij} is the mean food item price calculated over the entire sample;

$W_{ij}/(\sum^{j} W_{ij})$ is the caloric weight for the jth food item in the ith food, scaled to unity for every household; and P_i is the mean price for the ith composite food.

This price computation is based on the assumption that prices within a composite food are colinear, such that whatever items the household consumes from a composite food provides a proxy for the price of that composite food. In the absence of any purchase from a composite food the mean price for that composite food must be used. Table 1 presents the mean caloric contribution, the budget shares, and the mean prices for the eleven composite foods. Total food expenditure is computed as the sum of expenditures on each of the eleven foods in the system.

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[4] The food groups are diary, fats, starches, bread and cereals, sweets, meats, fish and poultry, eggs, vegetables, fruits, and all other foods.

TABLE 1. Price and Shares of Eleven Foods.

Food	Caloric Share	Expenditure Share	Price $/1000Kcals	Percent Households Consuming
Dairy	.10	.13	.81 (.20)	98
Fat	.13	.04	.19 (.05)	90
Starch	.18	.07	.29 (.11)	97
Bread & Cereal	.12	.08	.43 (.13)	99
Sweets	.12	.06	.36 (.16)	96
Meat	.22	.30	.94 (.20)	98
Fish & Poultry	.03	.10	1.87 (.64)	87
Eggs	.02	.03	.82 (.21)	95
Vegetables	.02	.09	2.49 (.97)	96
Fruit	.03	.07	1.44 (.44)	89
Other	.03	.03	.82 (.24)	69

The household demographic variables are created from the meal counts for each family member provided in the NFCS. Each demographic variable is defined as the number of meals eaten from household stocks by a person of the relevant age and sex characteristics. Meal counts, rather than number of household members is appropriate to examine the effect of household size on food demand. The number of meals served over a week is more closely related to food consumption than the nominal household size, as determined by persons under one roof. A full week of meals is taken to be 21 meals. Originally nine age/sex groups were defined, but examination of coefficients and testing of full versus reduced models showed four groups adequately fit the data. The four age/sex groups are: 1) boys and girls under age 12, 2) boys and girls between age 12 and age 17, 3) men 18 years and over, 4) women 18 years and over. Based on work by Kennedy, et. al [5], meals were weighted such that breakfast and lunch received a weight of .25 and dinner a weight of 0.5. These weights are based on caloric contribution to the daily intake from each meal. An advantage of using this specification is that household composition becomes a continuous variable. However, care should be taken in interpreting results, as household size in this specification refers to meal consumption, and not persons living together. In these data the mean household contained 3.32 members; the mean meal consumption is equivalent to 2.91 members.

A set of dummy variables are used to account for the systematic variation in preferences. Race (white or black), region (northeast, north central, south, or west), food stamp use, residence (urban, suburban, rural), and ethnic group (Hispanic or non-Hispanic) are used in the specification as dummy variables.

Results

In Table 2 the price elasticities and income elasticities and the elasticities of demand with respect to the household composition variables are shown. These elasticities are computed at the mean values of the variables.[5] Two of the income elasticities in Table 2, the income elasticity of demand for Meat and the income elasticity of demand for Sweets, are greater than one, indicating that these two foods can be considered luxury goods. The income elasticities of demand for Dairy, Starch, Bread & Cereal, and Eggs are less than one, indicating that they can be considered necessities. The remaining foods, Fats, Fish & Poultry, Vegetables, Fruit, and Other, have income elasticities not significantly different from one.

TABLE 2. Food Quantity Demand Elasticities: with Respect to Income, Food Prices, and Household Composition.

	EXP*	P1	P2	P3	P4	P5	P6	P7
1 Dairy	.877	.709	-.027	-.038	-.060			
2 Fats		-.104	-.330			-.148	-.112	
3 Starch	.864	-.006		-.519			-.161	
4 Bread & Cereal	.772	-.089			-.602		-.034	
5 Sweets	1.122		-.094			-.814		
6 Meat	1.173		-.022	-.061	-.053		-.764	-.110
7 Fish Poultry							-.267	-.559
8 Eggs	.640	-.161			-.087		-.144	
9 Vegetables								-.084
10 Fruit								
11 Other			-.172		-.163		-.224	

TABLE 2 (continued).

	P8	P9	P10	P11	D1	D2	D3	D4
1 Dairy	-.051				-.087	-.032		
2 Fats				-.157			.041	
3 Starch					.056	.050	.092	.058
4 Bread & Cereal				-.066	.102	.075		
5 Sweets	-.064							-.078
6 Meat	-.025			-.031	-.042	-.022		-.055
7 Fish Poultry		-.072			-.066			.143
8 Eggs	-.218	-.102				.057	.111	
9 Vegetables	-.051	-.776	-.069		-.063	-.023	-.037	.097
10 Fruit		-.090	-.648		-.036	-.083	-.104	.084
11 Other				-.274	.120		-.097	-.300

*EXP refers to expenditure, P_i refers to Price of the ith food, and D_i refers to age/sex group.

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[5] The estimated coefficients can be obtained from the authors on request.

All the own-price elasticities are negative and significantly different from zero at the .05 level. None of the own price elasticities exceed one in absolute value; the largest are for Sweets (-.81), Vegetables (-.78), Meat (-.76) and Dairy (-.71), while Fat, Eggs, and Other are very price inelastic. The cross price elasticities are quite small. All of the cross price elasticities that are significantly different from zero at the .10 level are negative, indicating that these foods are complements.

In order to illustrate the effects of total food expenditure, prices, and household composition, the estimated equations were used to calculate demand for various foods using varying values of the independent variables. Food prices were initially set at the sample mean values; starting values for total food expenditure and household composition were obtained by defining a representative household type. We arbitrarily selected the single mother with two minors. This was done by selecting all 3-person households with one adult female and two minors. A single mother heads about one third of all households in this sample with two or more minors. In addition to the female-headed household, a 4-person household consisting of one adult male, one adult female, and two minors was specified.

The effects of different total food expenditure levels on budget share and quantity of food consumed are presented in Table 3. Household composition is specified as the consuming equivalence for the 3-person female-headed household, and food prices are held constant the mean values, total food expenditure is set at the level of the 25th centile for this family type and at the mean level. As can be seen, when weekly food expenditures increase from $27.5 to $37 per week, the total number of calories increase from 42,300 kilocalories to 56,500 kilocalories. In addition, the composition of the diet changes. At the lower food expenditure level the diet contains relatively less Meat and Sweets, and relatively more Dairy, Starch, Bread & Cereal, and Eggs.

TABLE 3. Share and Quantity of Eleven Foods for a Standard Household at Two Total Food Expenditure Levels.

	$27.5 Expenditure		$37 Expenditure	
Food	SHARE percent	QUANTITY x 1000 Kcals	SHARE percent	QUANTITY x 1000 Kcals
Dairy	16.8	5.7	16.3	7.5
Fat	3.3	4.5	3.3	6.4
Starch	6.8	6.5	6.5	8.3
Bread & Cereal	10.0	6.4	9.5	8.2
Sweets	7.4	5.7	7.7	7.9
Meat	23.6	6.9	25.2	9.9
Fish & Poultry	7.2	1.1	7.1	1.4
Eggs	3.4	1.1	3.0	1.4
Vegetables	8.5	0.9	8.5	1.3
Fruit	7.7	1.5	7.7	2.0
Other	5.2	1.8	5.3	2.4
		------		------
TOTAL		42.3 Kcals		56.5 Kcals

These households are all eligible for food stamps, which have a primary impact of increasing income. Although the impact of the food stamp program on food expenditures is a matter of some discussion, the nature of this impact on both total consumption and the relative mix of foods can be seen in these estimates. The diet at the lower total expenditure level replaces some meat consumption with the relatively less expensive Dairy and Eggs, and relies more on the relatively inexpensive Starch and Bread & Cereal groups to provide calories. Both diets provide adequate caloric intake, although there is a much smaller margin of excess for the lower total food expenditure diet.

The effects of differences in household composition on diet are illustrated in Table 4, where consumption of the 3-person female-headed household is compared to consumption of a 4-person male and female headed household. The first household is the female-headed household previously described, with total weekly food expenditure set at the mean value, $37. The second household is obtained by adding one adult male, with a consumption equivalent of .83; for comparative purposes we have left the consumption equivalences of other family members at the levels found for the female-headed household. Expenditure for food for the 4-person household is set at the mean level for the female-headed household and at the mean level for the 4-person household. One approach to Table 4 is to view the 4-person household as an extension of the

TABLE 4. Share and Quantity of Eleven Foods for the Standard Household and the Standard Household plus an Adult Male.

	Household Composition					
children	1.39		1.39		1.39	
teens	.37		.37		.37	
women	.88		.88		.88	
men	.03		.83		.83	
total food expenditure	$37		$37		$44	
	% Share	1000 Kcals	% Share	1000 Kcals	% Share	1000 Kcals
Dairy	16.3	7.5	16.0	7.3	15.8	8.6
Fat	3.3	6.4	3.5	6.8	3.5	8.1
Starch	6.5	8.3	7.5	9.6	7.3	11.1
Bread & Cereal	9.5	8.2	9.6	8.2	9.3	9.5
Sweets	7.7	7.9	7.4	7.6	7.5	9.2
Meat	25.2	9.9	26.0	10.2	26.9	12.6
Fish & Poultry	7.1	1.4	7.1	1.4	7.0	1.6
Eggs	3.0	1.4	3.6	1.6	3.4	1.8
Vegetables	8.5	1.3	7.9	1.2	7.9	1.4
Fruit	7.7	2.0	6.6	1.7	6.7	2.0
Other	5.3	2.4	4.8	2.1	4.8	2.6
		------		-----		-----
TOTAL		56.5		57.8		68.5

female-headed household where the male is added with, and without, a compensating increase in total food expenditure.

Some of the difference between the 3-person and 4-person households at a given total food expenditure level are due to decreased per capita expenditure. Comparison of dietary patterns at equivalent expenditure levels may be more appropriate, and the third column of Table 4 presents the consumption of the 4-person household at the mean level observed for that household. Total consumption is dramatically increased to 68,500 Kcals, or a weekly household increase of 12,000 Kcals associated with the .8 consuming equivalent for the adult male. Again the differences in the patterns of consumption are striking. The male and female headed household show decreased relative consumption of Dairy, Vegetables, Fruit, and Other and increased consumption of Starch, Meat, and Eggs relative to the consumption patterns of the female-headed household.

From a nutritional viewpoint these diets are substantially different, with the diet associated with the female-headed household more nutritionally sound by most standards. Broad recommendations for most American households would be to decrease consumption of fat, switch some consumption of red meat to fish and poultry, and increase consumption of complex starches, fruits, and vegetables while decreasing consumption of processed carbohydrate foods (USDA, 1980).

In order to illustrate the effects of variation in food prices on demand a series of price simulations were run. The standard female-headed household was used with expenditure set at $35. Price variation was introduced by altering the prices of Dairy, Meat, and Fish & Poultry were singly, while the prices of Starch and Bread & Cereal were altered together as were the prices of Vegetables and Fruits.

The results of the simulation runs are presented in Table 5 The first row presents the caloric consumption of each food at the mean price level for all foods, and the last column presents the total caloric consumption at the mean price and at each of the price simulations. Thus, at mean prices, 7,100 Kcals of Dairy are consumed, and total consumption from all foods is 53,000 Kcals. For each of the five foods or food combinations a simulation was run with the price of the respective food(s) one standard deviation above the mean and one standard deviation below the mean. The consumption from each of the eleven foods is presented across the row, with the last entry being the total consumption. Thus when the price of Dairy is one standard deviation below the mean price (and all other prices constant), the Dairy consumption rises to 9,000 Kcals, the consumption of most other foods rises slightly (due to the income effect) and total weekly caloric consumption is 55,900 Kcals. When Dairy prices are set one standard deviation higher than the mean price, consumption of Dairy falls, consumption of most other foods fall, and total caloric consumption is 51,200 Kcals.

TABLE 5. Quantity of Food from Each of Eleven Foods Under Simulated Price Changes at Constant Total Expenditure.

Thousands of Kcals of Food

Total Expenditure Set at $35		Dairy	Fat	Starch	Bread& Cereal	Sweets	Meat
Mean	lo	7.1	6.7	7.7	7.6	7.4	9.3
Dairy	lo	9.0	6.2	8.0	7.8	7.4	9.3
	hi	5.9	5.8	7.6	7.3	7.4	9.2
Starches	lo	7.3	6.0	9.5	9.8	7.5	9.7
	hi	6.9	5.9	6.5	6.2	7.4	9.0
Meat	lo	7.1	6.2	8.1	7.8	7.4	10.8
	hi	7.0	5.7	7.2	7.2	7.4	7.5
Fish & Poultry	lo	7.1	6.1	7.7	7.5	7.3	9.7
	hi	7.0	5.9	7.7	7.6	7.5	9.0
Vege-tables & Fruit	lo	7.0	6.1	8.1	7.6	7.6	9.3
	hi	7.1	5.9	7.5	7.5	7.3	9.2

TABLE 5 (continued).

Total Expenditure Set at $35		Fish & Poultry	Eggs	Vege-tables	Fruit	Other	Total
Mean		1.4	1.3	1.2	2.0	2.2	53.0
Dairy	lo	1.4	1.4	1.2	2.0	2.2	55.9
	hi	1.3	1.2	1.2	2.0	2.2	51.2
Starches	lo	1.4	1.2	1.2	2.0	2.3	57.9
	hi	1.4	1.3	1.2	2.0	2.1	49.8
Meat	lo	1.5	1.4	1.2	2.0	2.3	55.8
	hi	1.2	1.2	1.2	1.9	2.1	49.6
Fish & Poultry	lo	1.6	1.3	1.3	2.0	2.2	53.8
	hi	1.2	1.3	1.2	2.0	2.2	52.4
Vege-tables & Fruit	lo	1.5	1.3	1.8	2.7	2.2	55.2
	hi	1.3	1.2	.9	1.6	2.2	51.7

The greatest effects for each simulation are the own-price effects, with the cross-price effects being much smaller in magnitude. Particularly large effects are seen for Dairy, Starch and Bread & Cereal, and Vegetables and Fruit, where a one standard deviation decrease in price leads to a 25% or greater increase in consumption.

These results suggest that there is an important impact of prices on the make up of the family food basket, and on the total calories consumed. Changes in the consumption of dairy or vegetable and fruit have marked nutritional consequences, since dairy provides about 50% of the dietary calcium in this sample and vegetables and fruit provide about 40% of the vitamin A and 70% of the vitamin C.

This research suggests that both income and prices will affect the composition of the diet for low-income households. Moreover, the nature of the effect and thus nutritional consequences will depend on the composition of the household. Most interesting in this research is the impact that food prices have on the composition of the diet. This suggests that government policy and regulation that have an impact on food prices may have nutritional consequences not usually considered when making policy. National nutrition policy will be affected by price policy.

REFERENCES

1. Adrian, J. and Daniel, R. "Impact of Socioeconomic Factors on Consumption of Selected Food Nutrients in the United States." American Journal of Agricultural Economics 58:31-38, 1976.

2. Barten, A.P. Family Composition, Prices, and Expenditure Patterns. Edited by P. Hart, G. Mills, and J.K. Whitaker. Econometric Analysis for National Economic Planning, London: Butterworth, 1964.

3. Basiotis P., Brown, M., Johnson, S. R. and Morgan, K. J. "Nutrient Availability, Food Costs, and Food Stamps." American Journal of Agricultural Economics 65:685-693, 1983.

4. Deaton, A. and Muellbauer, J. "An Almost Ideal Demand System." American Economics Review 70:312-326, 1980.

5. Kennedy, E.T., Harrell, M. W. and Frazao, B. "Distribution of Nutrient Intake Across Meals in the United States Population." Ecol. Food Nutr. 11:217-224, 1982.

6. Lane, S., "Food Distribution and Food Stamp Program Effects on Food Consumption and Nutritional 'Achievement'" of Low Income Persons in Kern County, California." American Journal of Agricultural Economics 60:108-116, 1978.

7. Maynes, E.S. and Assum, T. "Informationally Imperfect Consumer Markets: Empirical Findings, and Policy Implications." Journal of Consumer Affairs 16:62-87, 1982.

8. Neenan, P.H., and Davis, C.G. "Impact of the Food Stamp Program on Low Income Household Food Consumption in Rural Florida." Southern Journal of Agricultural Econonomics 9:89-97, 1977.

9. Pollack, R.A., and Wales, T. J. "Demographic Variables in Demand Analysis." Econometrica 49:1533-1551, 1981.

10. Senate Select Committee, "Dietary Goals for the United States." U.S. Senate Select Committee on Nutrition and Human Needs. Washington D.C.: USGPO, 1977.

REFERENCES (Continued)

11. USDA, "Essentials of an Adequate Diet." 1956.

12. USDA/DHHS. "Nutrition and Your Health: Dietary Guidelines for Americans." Home and Garden Bulletin No. 232, Washington DC: USGPO, February, 1980.

13. West, D.A. and Price, D. W. "The Effects of Income, Assets, Food Programs, and Household Size on Food Consumption." American Journal of Agricultural Economics 58:725-730, 1976.

DISCUSSION: DEMAND ANALYSIS FOR FOOD

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ABSTRACT

The three studies discussed are based on large scale data sets which have both strengths and limitations. The models employed gave little attention to the possibility of interaction between household composition and income. In the development of demand analysis research, attention should be given to developing projects with clear implications for consumer education and consumer policy.

THE DATA SETS

The three studies presented all are based on large-scale data sets. The Tufts-Gerner-Haas paper is based on data from the 1977-78 U.S.D.A. Nationwide Food Consumption Survey as is the Eastwood-Terry-Brooker paper. The Kolodinsky paper is based on data from the 1980-81 B.L.S. Consumer Expenditures Survey. The diverse topics of the three papers suggest the interesting possibilities of such data sets. We also need to be aware of some of their limitations.

The B.L.S. and U.S.D.A. data sets contain no information on the context of the choices made. There is no information on local prices or market structure. (This information can perhaps be constructed from other sources and added if the respondent's location can be identified). While there is some demographic information included, some variables of interest may not be. Income information is available, but data on financial assets, home ownership and household equipment owned is limited, at best.

And, of course, there is no information on attitudes or beliefs. We have no idea what particular goals were driving the respondent's choices. These limitations circumscribe the possibilities of these data sets. The Nationwide Food Consumption Survey, in particular, is a compromise between the needs of nutritionists, economists and marketers and may, in the end, not serve the needs of any of these three groups very well.

As a result of the nature of these data sets, economists who use them are likely to do demand analyses. (There isn't much else they can do with them.) The creativity arises in selecting and overcoming the limitations of the data. The papers today demonstrate several of the most creative techniques currently available.

MODEL SPECIFICATION ISSUES

It appears useful to comment on some issues of model and variable specification which arise in the three papers. All three papers pay close attention to the effects of household composition. Dummy variables are used to take account of its effects in both the Kolodinsky and Eastwood-Terry-Brooker paper. Tufts-Gerner-Haas uses another approach, weighted age-sex categories.

The use of dummy variables to deal with household composition assumes their effect is on the level of spending or use. It is implicitly assumed that they have no effect on response to income change. There is, I believe, reason to question this simplifying assumption. There is evidence that the effect of income on food expenditure (and, presumably also use) differs among household types [1]. This study found that the effect of income on expenditures for food-at-home were clearly different between one and two person households and larger households. The smaller households were much less responsive than the larger ones. This analysis was based on data which now would be regarded as semi-antique--the 1955 Household Food Consumption Survey. I think it is not unreasonable to suggest that the same type of interactions between household size and income which existed in 1955 still exist. Patterns in consumer behavior often persist, even if the specific numbers change.

Two of the studies took region and/or urbanization into account. Tufts, Gerner and Haas did not. This is, of course, important if we expect prices to differ between locales or expect access to particular items to differ (e.g., if we expect access to food-away-from-home to differ between urban and rural areas). Kolodinsky has, in Model I, used regional Consumer Price Index values to control for inter-regional price variation. The use of the CPI in this way is not appropriate, however. The CPI measures changes from historical base levels, not relative price levels.

Prices are a key component of Almost-Ideal-Demand-Systems estimations, such as that done by Tufts-Gerner and Haas. Their paper relies on an index of prices paid to control variation in prices paid between households and in determining real income. AIDS analyses using time-series data use the CPI to do this. With the CPI, quality is strictly controlled; price differences do not contain quality differences. It is unclear to what extent the prices variables used by Tufts, Gerner and Haas include quality differences.

IMPLICATIONS FOR CONSUMER POLICY AND EDUCATION

It is, also, useful to consider the utility of demand analyses such as those we are hearing today for consumer policy and consumer education. Do demand analyses have applications in these two areas? Too often they don't.

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The Tufts, Gerner and Haas paper has the clearest policy implications. We can see the potential effect of price and income manipulation on the behavior of low-income households. The large own-price elasticities for dairy, for starch-bread-cereals and for vegetables-fruit are of particular interest. They suggest, for example, that if we wished to improve the nutritional quality of the diets of the poor we might do well to limit food stamp coverage to these items.

As policy inputs, one of the limitations of demand analyses is that they do not really deal with policy manipulable variables. (While prices and incomes can be manipulated for small groups, they can't easily be manipulated for the population as a whole). One reason the Tufts, Gerner and Haas study is useful is that it is for a sub-group for whom price and income can, perhaps, be manipulated.

For consumer education, it can be argued that we need more studies of the market, or of consumers' interaction with the market and fewer studies of samples of consumers. Studies of consumers' behavior in the marketplace can, for example, answer questions about how effectively consumers are functioning in the current market environment.

There is a role for demand analyses, too, but not the usual one. I feel it would be useful to provide consumers information which can help them form expectations about the effect of a change in their personal situations. We could, for instance, answer such questions as:

- what is likely to happen to our food bills as our children get older?
- what is likely to happen to our food bills if we move to Houston?
- and, what is likely to happen to our food bills if my wife gets a job outside the home?

These are, of course, not exactly the kind of questions demand analyses usually set out to answer.

REFERENCES

1. Herrmann, Robert O. "Interaction Effects and the Analysis of Household Food Expenditures." Journal of Farm Economics 49, no. 4: 821-832.

CONSUMER REPORTERS ON TELEVISION: A PROFILE

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ABSTRACT

Consumer reporters on television can play beneficial educational and advocacy functions by presenting their viewers with current consumer problems and issues. Based on findings from 110 surveys, education-oriented reporters stressed current consumer issues in their stories while intervention-oriented reporters' stories were more involved with perennial consumer problems. Fifty percent of the education-oriented reporters indicated that they used professional consumer educators as a resource, but few considered them their consistently best source. As most consumer reporters come from broadcast journalism backgrounds, they may find the expertise of consumer educators a valuable resource. Consumer educators however have done little to avail themselves of the opportunity to interact with reporters to enable them to present accurate information.

INTRODUCTION

Consumer interest segments are popular features on many televised news programs. These segments are typically delivered by news-station personnel, often identified as "consumer reporters," who present viewers with information on a wide range of consumer topics. These program segments reach a large cross-section of the U.S. population by virtue of the fact that most Americans watch TV. A beneficial educational function is being performed by these consumer reporters by helping viewers to become more familiar with current consumer issues and problems, albeit perhaps to a limited extent. Hayes and AlYasiri (1985) raised questions about consumer reporters in a discussion on mass media and consumer information. They asked: should consumer reporters receive special training; can consumer reporters function independently of management/advertiser constraints; can issues be adequately covered in limited time; and how can consumer educators add their expertise to this system?

The purpose of this study was to find out who these consumer reporters are, what resources they typically rely upon, their educational and experiential backgrounds, and the issues they have recently addressed. Our goal is to develop a working profile of electronic media consumer reporting and reporters in order to more fully understand the potential and constraints of this channel of consumer information, and to elucidate the degree to which these informal educators/advocates utilize professional consumer educators.

A search of the relevant literature identified no previous studies addressing televised consumer reporting. Kuester (1978) surveyed newspaper consumer reporters to determine their perceptions of current consumer concerns, of developing trends in the consumer movement, and to more fully understand the status of consumerism in the newspaper establishment. According to Kuester, consumer reporters might be perceived as leaders in communicating consumer issues largely because they are in direct touch with the concerns and interests of their local constituents. Topics most frequently covered by these reporters included energy issues, government regulation, money management, conservation/environment and credit.

Mass media in general and its relationship with the consumer movement has been dealt with in several studies. Consumer affairs professionals, consumer activists, and the general public were asked in a Louis Harris and Associates (1977) poll "How good a job has television done in protecting the interests of consumers?" Television was rated "only fair" or "poor" by 61% of the general public and by 89% of the responding consumer activists. In 1977, based on this study, the message was that television had room for improvement in protecting the consumer interest.

More recently, AlYasiri, Hayes, and Stampfl (1986) identified the media as an important source of information, especially on technical advances in consumer products and services. They also found that media respondents considered themselves the best source of consumer information. They indicated that media in general, and television in particular, may assume an important role in the future of the consumer movement.

Hayes and AlYasiri (1985) identified some potential problems which might arise by using mass media to disseminate consumer information. These problems are typically institutional barriers to, and filters of, consumer information, and the "information gatekeeper" role of the consumer reporter. Institutional barriers in TV consumer reporting include time constraints and the format of most newscasts: many consumer issues are too complex to adequately cover in a limited time slot, and consumer stories are often bumped from the news line-up in favor of segments with more greater visual appeal or dramatic impact. Filters of consumer information include other editorial and management priorities, potential for liability questions, and possible conflicts arising from the interests of the station owners.

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While local markets may serve to keep reporters "in touch," more broadly-based consumer issues may be recognized through nationwide channels. Haefner and Permut (1975) indexed frequent consumer complaints based upon a content analysis of fourteen national-circulation magazines sampled over a twelve month period. Complaints about energy matters and about the government's inability to deal with major problems, especially economic ones, were the most frequently mentioned. Whether or not these issues would remain as important to consumers could only be determined through longitudinal surveying. Haefner and Permut concluded that business could take a more active role in eliminating consumer's problems, thus reducing the need for government intervention.

The literature reveals a paucity of information on media reporters as disseminators of consumer information. Kuester (1978) found that newspaper consumer reporters rated consumer leaders and educators "mediocre to poor" as reliable sources of consumer information, while rating themselves and consumer publications as the most reliable sources. Do television consumer reporters feel the same? A fuller understanding is needed by consumer professionals of television consumer reporters. What issues are covered by these broadcasters of consumer information? What information sources do they frequently use? What are their backgrounds and orientations?

METHOD

The population of television consumer reporters was not easily identified. At present, there exists no general listing of television consumer reporters, nor is there a nationwide professional organization of TV consumer reporters. In absence of such information, a more circuitous route to the nation's TV consumer reporters was required. The Broadcasting-Cablecasting Yearbook, 1986 (BCY86) was used as the comprehensive sourcebook of television stations in the United States. The population of eligible stations was determined by including those BCY86 stations having a named news director on their personnel lists. Excluded were secondary members or "partner" stations: those stations having a single staff, yet operating under different channels and call letters.

A target of 500 stations was selected to ensure a sufficient response to preserve statistical power. With the use of a random numbers table, 397 stations were selected from the identified population. The balance of 103 stations were selected as a canvass of the top 51 Area of Dominant Influence (ADI) cities, hereafter referred to as "major markets". The major market cities ranged in size from New York (1) to greater Greensboro, NC (51). Thus, each station in the top 51 markets with a BCY86 listed news director received a survey. Combined, these top 51 markets reach almost 57 million TV households. A total of 210 stations surveyed were in major markets: 107 chosen at random from the population, and 103 designated in the canvass. The remaining 290 stations represented smaller markets.

Survey materials were addressed to the news directors of each station, with instructions in the cover letter to pass the questionnaire along to the station's consumer reporter. If the station had no consumer reporter, the news director was instructed to check the corresponding box on the cover of the questionnaire and return it. Each survey packet mailed out contained 1) a cover letter stating the purpose and goals of the study, along with an invitation to receive a copy of the results; 2) the questionnaire; 3) a postage-paid, preaddressed return envelope; and 4) the token complimentary gift of a ballpoint pen.

RESULTS

Of the 500 surveys sent, 222 (44.4%) were returned. Stations doing no consumer reporting accounted for 112 responses (50.5% of the returns) while 110 stations completed the questionnaire (49.5% of the returns). Of the 110 responses from stations involved in consumer reporting, 48.6% were from the major markets. A note of caution regarding those major market responses: the response rate for the top 10 major markets was extremely low--only 8 stations out of 59 returned completed questionnaires.

The television consumer reporters were 54% male, 46% female, and the majority (51.6%) were between 26 and 35 years old. The majority (61.2%) of respondents listed a bachelor's degree as their highest level of education (Table 1). Broadcasting was the prevalent academic major reported (51.6%), with journalism a distant second (18.3%) followed by liberal arts (15.1%).

The responding television consumer reporters brought a fair amount of broadcast experience to their positions. Almost half (48.6%) had been in broadcasting ten years or more. However, 57.8% had been a consumer reporter for 2 years or less, and 32.5% had been consumer reporters for less than a year. When asked how they came to the position of consumer reporter, 31.5% responded they were hired specifically for the position, 41.6% were assigned to be the consumer reporter, and 13.5% volunteered for the position. Thirty-two percent of the respondents indicated they were the only person who regularly worked on consumer stories, while 46.2% reported having one- or two-person staffs. The respondents had been employed by their current station for relatively short periods of time: 39.8% had been there two years or less (Table 1). These relatively short job tenures are perhaps characteristic of broadcast journalism -- when asked about their career goals, the most popular response among these consumer reporters was moving to a larger market (23.9% of respondents).

When asked if they felt their education had prepared them to address consumer topics, the majority (58.2%) agreed. However, when asked whether their education, own experiences, or on-the-job training had been most helpful in addressing consumer problems/issues, 37.8% stated that their on-the job training had been most helpful while 34.7% indicated their own experiences were most helpful. Only 2% stated that their formal education was most helpful in addressing consumer problems/issues.

The television consumer reporters were asked to characterize their reports as being primarily education-oriented or intervention-oriented. This distinguishes the practice of providing people with information so they may be more informed consumers (education) from that of assisting people in resolving consumer problems (intervention). Of those responding, 35.8% of the consumer reporters dealt with both intervention and education, while 53.2% were exclusively education-oriented, and 11% were exclusively intervention-oriented.

Those involved in educational consumer reporting were asked what sources of information they typically used when researching a consumer topic, and which of those were consistently their best source (Table 2). The most frequent sources included state or local consumer affairs agencies (acknowledged by 82.5% of the respondents), consumer-oriented publications such as Consumer Reports (78.4%), and the attorney general or district attorney (63.9%). Consumer educators were acknowledged by 50.5% of the respondents as being a typically used source, while academic journals were noted least often (13.4%). The most frequently mentioned "best source" was state or local consumer affairs agencies (29.8%) followed by consumer-oriented publications, 26.2%. Consumer educators were rated "best source" by only 8.3% of the TV consumer reporters.

Of those television consumer reporters involved in an intervention approach, 56.8% reported that they mediate or arbitrate disputes between consumers and businesses. The majority (91.5%) of those involved in intervention televise follow-up reports pertaining to actions they have taken on behalf of consumers. Over half (54.3%) of those responding reported a 75-100% success rate for gaining satisfaction for the consumer.

Both education- and intervention-oriented respondents were presented with lists of common consumer problems/issues and asked to check those they had dealt with on the air in the last three months (Table 3). The most frequently handled topics among the education-model reporters were 1) banking and new financial services - 79.4%, 2) housing - 74.2%, 3) automotive - 73.2%, 4) gasoline prices - 69.1%, and 5) desceptive business practices - 68.0%. Intervention-model television consumer reporters dealt most frequently with 1) vacations and tours - 66.0%, 2) mail and telephone orders - 63.8%, 3) landlord-tenant issues - 59.6%, 4) credit - 57.4%, and 5) automobile repair - 51.1%.

In summary, TV consumer reporters appear to be trained as broadcast journalists who learn about consumer issues and problems as they do their jobs. Their most frequent and best sources of information are consumer affairs agencies and the popular consumer publications. These consumer reporters handle a wide variety of topics, and these topics differ depending upon whether the approach is education or intervention.

DISCUSSION AND CONCLUSIONS

This study has explored television consumer reporting and described the backgrounds, orientations, and experience of the reporters as well as issues and sources of information used by them. These reporters can have tremendous impact on their audiences. Kuester (1978) observed, with regard to newspaper consumer reporters, that they are in direct touch with the pulse of local consumer interests and issues. This may even be more true of television consumer reporters.

The education/intervention typology used to describe the different approaches to consumer reporting may be a very important differentiation. Our evidence suggests these to be two different tasks, and it appears that two different approaches to consumer reporting emerge. Furthermore, two different types of consumer problems/issues are covered. The stories could be subject to differing sets of barriers and filters as suggested by Hayes and AlYasiri (1985). The demands placed on each type of consumer reporter may also be quite different, and these may impact the types of consumer stories that are covered.

AlYasiri et al. (1986) asked if consumer topics could be adequately covered by TV consumer reporters. According to the results of this study, the education-oriented reporters are addressing topics on specific types of information where up-dates of new aspects would be invaluable to their viewers. Therefore, they are in need of readily available resources regarding new consumer issues and problems. In contrast, the intervention-oriented reporters appear to be addressing perennial problem areas. They are working with an investigative reporting model, a particular journalistic style. They are also adopting a more active, advocacy role on the part of the consumer. Their needs for information sources are somewhat different than their education-oriented counterparts.

Haefner and Permut (1975) attempted to identify the universe of consumer topics and index their relative importance. While there may actually be a fairly constant set of topics covered by the education-oriented TV reporters, their relative importance appears to be constantly shifting. For example, Haefner and Permut found energy to be the number one topic in the early 1970's. In this study, banking and new financial services was number one. However, if this survey had been done in the early fall of 1986, it is highly likely that credit and automotive topics would have led the list due to reduced interest rate the sales incentives of all the major automakers.

Some major implications for this study are related to the potential role consumer educators and consumer professionals may have in terms of outreach to consumer reporters. In other studies (e.g., Kuester, 1976) reporters have considered themselves to be good sources of consumer information. However, TV consumer reporters are not specially trained in consumer studies, but come from broadcast and journalism backgrounds. Neither is their professional orientation specifically related to remaining a consumer reporter (many listed their career goal as moving to a larger market or into management positions). However, they are sufficiently interested in consumer issues and problems to function effectively in their positions although they pull from their own experiences and rely on on-the job training to become informal educator/advocates. Consumer education professionals should become more active and be available as resources for these reporters to ensure the quality and accuracy of the information transmitted. Given their small staff size, consumer reporters may welcome an additional resource if consumer educators and advocates can prove to be easily available and reliable. Other forms of outreach for these television consumer reporters may include encouraging their involvement in consumer-oriented professional organizations such as ACCI and SOCAP, providing valuable networking with a variety of consumer professionals to be called upon as resources. In educational settings, more effort should be made to include consumer courses as electives for broadcast and journalism majors.

In conclusion, TV consumer reporters are using an readily accessible medium to impart information to, and intervene for, consumers. The fact that consumer educators are not considered to be an important source of information by the education-oriented reporters points to a missed opportunity. In simple terms, consumer educators have information and expertise to offer TV consumer reporters while TV consumer reporters have an audience to offer consumer educators. TV consumer reporters are not actively seeking out consumer educators, nor are consumer educators actively seeking TV consumer reporters to offer their expertise. Given that many stations still highly value the public service component of broadcasting and perceive their use of the airwaves and a public trust, they may welcome the opportunity to share this responsibility with consumer educators.

TABLE 1. A Profile of TV Consumer Reporters

Education		
Highest level attained		
Vocational school or associate degree		1.9%
Some college		10.7%
Completed college (BA/BS)		61.2%
Some graduate study		7.8%
Graduate degree		18.4%
Academic Major		
Broadcasting	51.6%	
Journalism	18.3%	
Liberal Arts	15.1%	
Social Sciences	6.5%	
Business	5.4%	
Consumer Studies	0	
Experience		
Years in Broadcasting		
0-2 years	5.6%	
3-5 years	21.5%	
6-10 years	24.3%	
10 or more years	48.6%	
Years at Current Station		
0-2 years	39.8%	
3-5 years	28.7%	
6-10 years	17.6%	
10 or more years	13.9%	
Years as a Consumer Reporter		
less than 1 year	32.5%	
1-2 years	25.3%	
3-5 years	21.7%	
6 or more years	20.5%	
Career Goals		
Move to larger market station		23.9%
Anchor newscast		19.7%
Move to management position		14.1%
"Success"		12.7%
Remain in same position		11.3%
News director position		7.0%
Do other type of reporting		5.6%
Production		4.2%

TABLE 2. Sources of Information Used by Education-Oriented Reporters

	Used	Best Source
State/local consumer affairs agencies	82.5%	29.8%
Consumer publications	78.4%	26.2%
Attorney general/district attorney	63.9%	15.5%
Consumer educators	50.5%	8.3%
Government publications	48.5%	0
Attorneys	45.5%	1.2%
Academic journals	13.4%	1.2%

TABLE 3. Topics Covered By TV Consumer Reporters During Last Three Months (Percent indicating that topic)

Education-Oriented	%
Banking and new financial services	79.4
Housing	74.2
Automotive	73.2
Gasoline prices	69.1
Deceptive business practices	68.0
Fraud	67.0
Credit	66.0
Insurance	63.9
Getting more for your money	52.6
Health care costs	51.5
New Products	43.3
Money management	42.3
Energy conservation	40.2
Environmental issues	39.2
Know your rights	39.2
Government regularion	37.1
Repair services	35.1
Intervention-Oriented	
Vacations and tours	66.0
Mail/telephone orders	63.8
Landlord/tenant	59.6
Credit	57.4
Automotive repairs	51.1
Health care	46.8
Automotive sales	46.8
Charities	36.2
Appliance repair	36.2
Work-at-home ventures	29.8
Appliance sales	17.0

REFERENCES

1. AlYasiri, J., J.R. Hayes, and R. W. Stampfl (1986), "Consumer Professionals Forecast the Future of the Consumer Movement," *Proceedings*, American Council on Consumer Interests, pp. 350-356.

2. *Broadcasting-Cablecasting Yearbook, 1986*, (1986), Washington, DC: Broadcasting Publications, Inc.

3. Haefner, J.E. and S.E. Permut (1975), "Indexing Consumerism Issues Through the Mass Media," *The Journal of Consumer Affairs*, 9 (Summer): 81-89.

4. Harris, L. and Associates (1977), *Consumerism at the Crossroads: A National Opinion Research Survey of Public, Activist, Business and Regulator Attitudes Toward the Consumer Movement*. Boston: Sentry Insurance.

5. Hayes, J.R. and J. AlYasiri (1985), "Consumer Reporting: Problems Conveying Consumer Information Through the Mass Media," *Proceedings*, American Council on Consumer Interests, pp. 98.

6. Kuester, M. (1978), "Concerns of Consumer Media," *Proceedings*, American Council on Consumer Interests, pp. 104-107.

DOES WORD-OF-AUTHOR ADVERTISING POSE A PROBLEM FOR CONSUMERS?

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ABSTRACT

The term "word-of-author advertising" has been used to refer to the fact that popular writers are using brand names in the texts of their works. The study draws upon data from 265 Consumer Reports tests conducted from 1950-1979 to determine the quality of the products associated with brands which are frequently used in this way. The results indicate that in a majority of the tests, product quality was higher for the frequently used brand names in word-of-author advertising, but a substantial minority of test reports proved to be exceptions to this general finding.

In a recent series of articles, Friedman (1985a, 1985b, 1986a, 1986b) identified a relatively new publishing practice which he called "word-of-author advertising." The term was used to refer to the fact that writers of screenplays, television dramas, novels, and other popular cultural products are using brand names in the texts of their works. An illustration of the practice is Don McLean's taking his "Chevy to the levee" in the hit song American Pie.

Word-of-author advertising can be expected to prompt concern on the part of consumer advocates, many of whom would no doubt see consumer recipients as unduly vulnerable to the influence of such messages. Advocates are especially likely to be concerned if the brand names used in word-of-author advertising are those associated with products of low quality. For, in such instances, the suspension of critical faculties on the part of consumer recipients of the messages could lead to undue influence in the direction of poor consumer choices.

This study attempts to determine the level of product quality associated with brands varying in frequency of use in word-of-author advertising. The study addresses this question by first identifying those brands that are high on this dimension (relative to their competitors), and than determining how they rate on quality (again, relative to their competitors).

PROCEDURES

Brand name frequencies were examined for a research collection of 315 popular American novels, plays and songs all of which were published in the years 1950-1979. Since literally hundreds of different brand names were found in this collection, it was decided to limit attention to those brand names associated with products for which objective quality information was available over the 30-year period of study. Consumer Reports magazine, which was published continuously over this 30-year period, was selected as our arbiter of product quality, and brand names associated with products not tested in Consumer Reports were eliminated from our pool of candidates.

Next we looked for brands in the remaining pool (we call them "tested brands") which had scored high on frequency of usage. Once we found these brands, we looked among them for instances in which a tested brand's competitors had not scored high on frequency of usage over the 30-year period of study. The objective here was to compare the product quality of brands high on frequency of usage of word-of-author advertising with the product quality of competing brands which were low on this measure. Six of the tested brand names met this criterion and we refer to them as "Word-of-Author Brands." Included here are A & P, Buick, Cadillac, Kleenex, Levis and Sears.

Close examination of the product tests for the Word-of-Author Brands revealed the repeated presence of certain competitors of these brands for the 1950-79 period ("Leading Competitor Brands"). To determine how the Word-of-Author Brands compared on product quality with all of their competitors ("All Competing Brands") and the Leading Competitor Brands, the total set of Consumer Reports tests was identified for the 1950-79 period which provided overall evaluations of the Word-of-Author Brands and all of their Leading Competitor Brands.

The individual product brands and models evaluated in each test report were then assigned rank values according to their overall evaluations in Consumer Reports. Some brands were represented by more than one model in a single test report; in such instances, it was decided to opt for the rank value of the highest quality model to represent the brand in the data analysis. In effect, then, the study findings compare the highest quality representatives of the brands included in a test report, e.g., how the highest ranked Sears model compares with the highest ranked model of J.C. Penney, and the highest ranked model of Wards, etc.

RESULTS

The highest ranked models of the Word-of-Author Brands tended to outperform the highest ranked models of All Competing Brands. Overall, a slight majority of the tests showed this effect. And the same pattern emerged consistently across all six Word-of-Author Brands, a result which is statistically significant.

Moreover, we find a similar dominance of the Word-of-Author Brands over the Leading Competitor Brands, in that the highest ranked models of the Word-of-Author Brands tended to outperform the highest ranked models of the Leading Competitor Brands. And once again, the tendency was evident in all the comparisons involving the six Word-of-Author Brands, a result which is statistically significant.

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DISCUSSION

It is well to ask what we are to make of the study findings. Do they really suggest, as was indicated earlier, that consumers have less reason to worry about word-of-author advertising since many of the brands being cited over the years are represented by models with relatively high ratings on Consumer Reports' tests? Practically speaking, this would appear to be the case but we should be quick to add that two considerations suggest the exercise of caution. First, the study findings are historical in nature and what held for the 1950-79 period may not continue to hold in the present and future. Second, the data analysis revealed effects which are quite modest in magnitude even though they reach customary levels of statistical significance.

The policy implications of the study findings would seem most direct for the field of consumer education. It is common practice for textbooks in this field to have chapters or sections of chapters dealing with advertising and the consumer (e.g., Miller, 1984). Typically they discuss the role of advertising in the economy and alert readers to the biases which may exist in advertising messages. Since, however, the definitions of advertising employed in these textbooks are usually limited to producer-generated information about consumer products and services, the focus of this study - word-of-author advertising - is not considered.

The study findings suggest that this may be a mistake. Both psychological theory and marketing practice suggest that word-of-author advertising can affect consumer perceptions of frequently cited brands. And the accumulated results of 30 years of Consumer Reports tests indicate that in two of five cases the brand names being cited frequently are relatively low in quality.

It would seem then that educators should alert consumers to the possibility of commercial influences in popular forms of communication which have long been considered non-commercial in character. Since the study findings show that such influences may often be in the direction of promoting relatively low quality products, it is especially important that consumers be adequately forewarned.

REFERENCES

1. Friedman, M. P., "Are Americans Becoming More Materialistic?" Advances in Consumer Research, 1985a, 12, 385-86.

2. Friedman, M. P., "The Changing Language of a Consumer Society: Brand Name Usage in Popular American Novels in the Postwar Era," Journal of Consumer Research, 1985b, 11, 927-38.

3. Friedman, M. P., "Commercial Influences in Popular Literature: An Empirical Study of Brand Name Usage in American and British Hit Plays in the Postwar Era," Empirical Studies of the Arts, 1986a, 4, 63-77.

4. Friedman, M. P., "Commercial Influences in the Lyrics of Popular Music of the Postwar Era," Journal of Consumer Affairs, 1986b, 20, 193-214.

5. Miller, R. L., Economic Issues for Consumers, St. Paul: West Publishing Co., 1984.

MAGAZINE CLEARANCE AND CONSUMER PROTECTION
-- PRELIMINARY FINDINGS --

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ABSTRACT

Media restrictions on acceptable advertising are often cited as examples of strong advertising self-regulation. However, the information is mostly anecdotes of large vehicle examples. Little is known about the standards applied by magazines to decide what ads are acceptable for publication. This paper presents the results of letters to 107 publications about their clearance standards, attempting to discern how often publishers and advertising managers are concerned about protecting readers from deception and what other concerns might guide clearance decisions.

The basic question is whether or not readers can or should expect magazines' standards for acceptable advertising to be a source of consumer protection.

This research grew out of contacts first made with publishers as a concerned reader with proof of false ad claims. A publication allegedly dedicated to consumers' interests replied that they do not believe in rejecting any ads [21]. This was especially bothersome since the space sales packet for this same publication was discovered to stress strong reader trust as a primary benefit for advertisers. Another publication replied with a list of questionable, but unquestioned, claims in a current issue [12], later noting that no advertiser would be directed to alter claims, even if known to be false, unless a complaining reader can prove that subscribers were actually harmed by the ad claims [13].

SELF-REGULATION:IMAGE VS. RESEARCH

As is often desired by business leaders, more "visible" self-regulation activities engender an impression that government might not be needed; often-repeated examples of the strongest clearance bodies could imply that self-regulation can take over where government activities end [e.g. 15, ch. 8; 16].

The image of the clearance process was presented when Sid Bernstein asserted in Advertising Age that "It is virtually impossible to run an ad in a magazine or newspaper . . . without exposing that ad or that commercial to prior review by the [vehicle's owner] or one of the owner's representatives" [3].

However, examples of large circulation publications accepting advertising containing claims the magazine people should have reason to question are easy to find in letter columns of the business press [e.g. 14]. In some cases, readers have contacted the magazine about false claims, yet the ads continue to run [e.g. 1; 14].

Most self-regulation articles have been directed toward industry-wide standards, trade practice guidelines and possible anti-trust violations [e.g. 2; 6; 9; 10; 11; 17]. Trade press coverage of media clearance issues indicate that the basic concern seems to be avoiding offending the audience and maintaining good public relations with readers and/or viewers [e.g. 4; 5; 20]. The few academic articles in the area, though researched from a slightly different perspective than consumer protection concerns, seem to uphold such conclusions.

Utt and Pasternack presented responses of 75 newspaper editors on standards for advertising acceptance. The major focus of the study was on newspapers' legal right to reject ads, not issues of advertising veracity, but responses did indicate little concern with protection of readers from false claims [18]. The editors expressed most concern with specific products that readers might find objectionable, with newspapers in more conservative parts of the country rejecting more product categories. Circulation was not a determining factor of clearance standards, going against conventional wisdom that most secure papers would be the strictest.

Zanot described the clearance process for a large advertising agency and its dealings with major media vehicles. The internal agency reviews are quite rigorous and analysis quite detailed, but while the television networks had requested substantiation or revisions of claims, the major magazines had no problem or questions with the ads [22]. It should also be noted that Zanot and Rotfeld found that large agency procedures are atypical, with the process described as much more informal at smaller agencies or offices with fewer national accounts. Only the largest agency even considered magazines as part of the clearance process [23].

LaBarbera contacted editors of ten national magazines that carried "back of the book" ads, asking about their standards and ethical guidelines for deciding which ads to carry. Five of the ten editors responded, from the terse and impersonal to one detailed expression of great concern [9]. However, these were all financially secure publications that carried the worst of questionable advertising and only five of the ten editors even replied.

In sum, little is known about the details of magazines' standards for advertising acceptance. The Magazine Publishers' Association does not have any guidelines, it is unknown if any publications actually heed the United States Postal Inspection Service recommendations for publishers [19] and little is known beyond the activities of those few publications that engender special attention in texts, such as Good Housekeeping.

METHODOLOGY

Letters of inquiry were sent to both the publishers and advertising directors at 107 consumer magazines.

The magazines were selected from the Advertising Age monthly listings of top advertising linage in consumer magazines, supplemented by other magazines listed in a variety of categories in Standard Rates and Data Service. The simple goal was to compile a list of the largest circulation magazines plus a wide range of other consumer publications.

Publishers and advertising managers were both contacted because either individual might be the person in charge of clearance policy, though it was impossible to ascertain who that might be in advance for any given publication.

Judging from replies to LaBarbera's inquiries [9], a publication that followed formal policy would have a written set of documents that they could send. However, informal guidelines or a simple case-by-case procedure would need explanations by the person(s) in charge. Unstructured contacts were judged to be best to maximize these explanations.

Replies were received describing the policies and procedures of 78 magazines. In 6 cases, both the advertising manager and publisher replied from a given magazine, and on 6 occasions, a group publisher responded for several publications with the company, a few of which were not on the original mailing list. Follow-up letters to non-responding publishers and advertising managers did not generate any additional responses prior to the cut-off date.

RESULTS

Policies, Guidelines and Consumer Protection

Where specific formal guidelines were reported, as they were with a small number of publications, they varied widely from a general statement of acceptance policy to detailed and lengthy regulations. Rarely did a publication mention adherence to principles developed by an industry association.

The manager for the Copy Acceptance Department for the seven magazines of Time, Inc. -- Fortune, Life, Money, People, Sports Illustrated and Time, -- reported that the magazines followed the guidelines established by the American Advertising Federation, covering issues of truth, substantiation, comparisons, testimonials and taste. They also followed Better Business Bureau suggestions on acceptable copy. However, only the publications of Time, Inc., specifically reported following these guidelines. One magazine reported subscribing to the standards set forth by the Direct Mail/Marketing Association for the acceptance of mail order advertising, but no other outside sources of policy were mentioned by any other publishers or advertising managers.

All other advertising guidelines (in the rare cases where they could be specifically delineated) were very individualistic and varied.

At one extreme, one publication geared reported a strict policy of acceptance governing everything from types of products permitted to the nature of ad message. A literary magazine required potential advertisers in several product categories to fill out a questionnaire requesting a sample of the product or service and copies of all materials sent to readers responding to the proposed ad.

At the other extreme, a well-known literary magazine proclaimed, as an editorial philosophy, that their advertising acceptance standards were the same as the publisher felt is expressed in the First Amendment and the magazine would carry "any advertisement provided sale of the product is legal in the United States." Advertisements that might deeply offend readers would be discouraged, but if the advertiser persisted, the publisher said they would feel obligated to carry the advertisement.

The more common unstructured informal policies were generally a simple matter of publisher opinion about the propriety and appropriateness of the advertisement. Informal policies described often dealt with problems on an ad hoc basis when (and if) they were brought to an executive's attention.

Advertising Honesty and Other Concerns

While the truthfulness of advertising might intuitively be expected to be a concern for all publishers, only nine respondents mentioned it in their comments.

The closest respondents came to a general concern for honesty concerned identification of the advertisement and the potential for confusing advertising copy with editorial matter. Only six magazines specified this area in responses, but rate cards of additional publications included language addressing this issue. It is apparently widespread policy to require clear identification of all advertising, and most publishers reserve the right to add the title "advertisement" to any copy.

Several magazines addressed the special problem of mail order advertising. Some require substantiation of claims, and others may request samples of the product, although such practices were mentioned by only a handful of respondents. One financial magazine reported the unusual and unique practice of checking out all mail order accounts with both the postal authorities and the Securities and Exchange Commission.

Overall, clearance concerns centered primarily on (1) the suitability of the advertisement to the editorial nature of the magazine and (2) the ubiquitous matter of "good taste." In fact, the one guiding principle common to many of the magazines, more common than concerns for substantiation or truth, was a concern for "good taste." Occasionally it was included in a long list of standards and practices, though often it was the only guideline mentioned. It was frequently tied to a statement that the ads should "fit" the publication's editorial orientation.

The examples were many and similar; one magazine noted, "In general we are looking for nice tasteful advertising," another women's magazine reported that, "All ads that are deemed potentially offensive or inappropriate to the magazine and to the readership." A food magazine reported exercising "discretion" based on good taste and the relationship of the advertised product to the editorial content. A "home" magazine responded that "Some categories of advertising we will not pursue (personal hygiene) not because of a product fault, but because it might not fit with our magazine's image."

Obscenity and/or nudity was a concern specified by nine magazines, again, mostly tied to concerns of "good taste." In a few other publications, nudity was banned; a magazine aimed at younger and physically active people barred "frontal nudity."

It is interesting that with contemporary society's elevated sensitivity to various minorities, only one magazine, allegedly read by "the better educated" reported that, "Advertisements that discriminate against any group or individual will not be accepted."

Restrictions by Product Type

In general, it appears that most magazines (with a few exceptions) are concerned about the nature of the advertised product only to the extent that it "fits" with the editorial atmosphere of the magazine.

A number of magazines suggested that advertising of products not related to the editorial content of the magazine was discouraged; one sports magazine noted the need to maintain a "family" atmosphere. Again, this indicated a concern more with pleasing the audience than consumer protection.

The nature of the restricted products ranged from contraceptives to chinchilla breeders. In addition, several magazines declined to carry advertisements dealing with religious or political topics.

The most severe restrictions were reported by *Modern Maturity* with 21 products and services whose ads the publication will not accept listed on the rate card. These include wheelchairs, stair lifts, hernia belts, back braces, laxatives, denture cleansers, hearing aids and self-defense weapons. It also will not accept political or religious messages.

Correlates with Strict Guidelines (?)

As Utt and Pasternack found for newspapers, circulation size did not appear to be related to clearance policy with the magazines responding to our inquiries [18].

The circulation figures for those publications claiming a formal acceptance policy is rather evenly distributed from about 52,000 to 5.2 million. Similarly, the figures for those magazines reporting only an informal policy ranges from 50,000 to 6.7 million. Descriptions of policies that could be considered quite "loose," were reported by publications with less than 100,000 and by those with readership of several millions. The same was found for publications with very restrictive and detailed guidelines for acceptance.

At the same time, there exists a weak indication that publications with more focused precisely defined audiences might have tighter clearance policies. In each case, the publisher appears to take on the role of consumer protector for the particular demographic group of readers as defined by the predominant editorial concerns. Some highly specialized magazines also maintain special and that act on the behalf of subscribers to resolve complaints about advertised products.

However, conclusions about such a causal relationship between audience breadth and strictness of standards might be a bit premature. Some publications of very broad appeal had guidelines among the most strict reported; a couple very specialized magazines did not seem to care at all.

The one clear and strong indication is that publisher "whim" stands as the primary determinant of clearance policies.

The publisher of one women's magazine, for example, reported being raised a Southern Baptist and so advertisements for male contraceptives were permissible so long as they were restricted to the discussion to birth control. Descriptions regarding "the joys of sex" were not acceptable. The publisher of a highly specialized recreation vehicle magazine was most succinct: "it would be most difficult to operate on hard fast rules and I imagine most publishers base (their) judgments strictly on their own personal life experience and values."

A final factor which is often considered to contribute to the acceptance policy of a given magazine is that of the current economic health of the periodical.

One of the respondents explained at length that "[My concerns in advertising are a combination of what I perceive to be the interest of my readers . . . and my own levels of taste and acceptability. Modified by greed and fear. When business is very good, publishers tend to get uppity about acceptance (like those questionable direct response ads offering to make you millions). When business is bad, publishers seem to look the other way (is it legally okay?)."

Nature of Policy

	n	%
Formal	24	30
Informal	49	63

Source of Policy

	n	%
Publisher	28	36
Editor	1	1
Committee	2	2
No response	47	60

Enforcement of Policy

	n	%
Publisher	35	45
Committee	9	11
No response	34	43

Stated Bases for Rejection

	n	%
Bad Taste	22	28
No I.D.	10	13
Product type	23	29
Tobacco	8	10
Alcohol	5	6
Feminine Hygiene	3	4
Religious	3	4
Political	3	4
Contraceptives	5	6

CONCLUSIONS: MAGAZINE CLEARANCE AND ADVERTISING REGULATION

A large number of publishers were proud that they retain the right to reject ads (even if some never have had occasion to actually do so).

On the other hand, they generally perceived the magazine world as devoid of any written guidelines. Those that had clear guidelines or copy acceptance procedures indicated that they believed they were virtually unique. Almost all letters from publishers started by saying that almost no one has formal written guidelines. However, they were all proud of their procedures, even if those procedures were never used, even if they amounted to a policy of accepting everything.

With all these variations in approach and internal pressures that color clearance activities, it should come as no surprise that the trade association for magazine publishers never set standards for members for acceptable advertising.

One publisher wrote a background discussion about why the Magazine Publishers Association never adopted guidelines for acceptance standards. An MPA committee considered a proposal for guidelines, but discussion revealed that the individual personalities of magazines, the editorial and reader profiles, fashioned the standards more than a code ever could.

Readers might wish to believe that their favorite magazine protects them from false ads and misleading claims. Some do and are quite proud of it. However, most of our respondents do not.

REFERENCES

1. Anonymous. "Media Must Screen Out Fraudulent Advertising." Marketing News, December 6, 1985. p. 11.

2. Baum, Daniel Jay. "Self Regulation and Antitrust: Suppression of Deceptive Advertising by the Publishing Media." Syracuse Law Review 12: 289-304.

3. Bernstein, Sid. "How to Kill One Medium." Advertising Age, September 29, 1986. p. 17.

4. Christopher, Maurine. "Tampax Unveils New Candor in 'Period' Ad." Advertising Age, March 11, 1985. p. 62.

5. Enrico, Dottie. "Condom Marketer is Using Fear of Diseases in Positioning Its Product." Adweek, August 4, 1986.

6. LaBarbera, Priscilla A. "Analyzing and Advancing the State of the Art of Advertising Self-Regulation." Journal of Advertising 9 (#4): 27-38.

7. ____________. "Advertising Self-Regulation: An Evaluation." MSU Business Topics. 28 (Summer): 55-63.

8. ____________. "The Antitrust Shadow over Advertising Self-Regulation." Current Issues and Research in Advertising 4: 57-70.

9. ____________. "The Shame of Magazine Advertising." Journal of Advertising. 10 (#1): 31-37.

10. ____________. "The Diffusion of Trade Association Advertising Self-Regulation." Journal of Marketing. 47 (Winter): 58-67.

11. Maddox, Lynda M. and Eric J. Zanot. "Suspension of the NAB Code and Its Effect on Regulation of Advertising." Journalism Quarterly. 61: 125-130, 156.

12. Missavage, Karen. advertising manager for *Bicycle USA*, personal correspondence, August 31, 1984.

13. ___________. advertising manager for *Bicycle USA*, personal correspondence, September 7, 1984.

14. Patterson, Ralph B. "On Canon's Case." *Advertising Age*. "Viewpoint: Letters" section, May 7, 1984.

15. Rotzoll, Kim B. and Haefner, James E. *Advertising in Contemporary Society: Perspectives Toward Understanding*. Cincinnati, OH: South-Western Publishing Co., 1986.

16. Simmons, Patricia. "Minnesota BBB Touts New Ad Board." *Advertising Age*, September 8, 1986. p. 71MW.

17. Stern, Louis L. "Consumer Self-Protection Via Self-Regulation." *Journal of Marketing* 35 (July): 47-53.

18. Utt, Sandra H. and Pasternack, Steve. "Dailies' Non-Acceptance of Advertising: Rights and Policies." paper presented at annual conference of Association for Education in Journalism and Mass Communications, Norman, OK, August 3-6, 1986.

19. United States Postal Inspection Service. *Misleading Advertisements: A Guide for Publishers*. Washington, DC: U.S. Government Printing Office, publication #257, July 1982.

20. Winters, Patricia. "Condom Ads in Print Breakthrough." *Advertising Age*, September 15, 1986. p. 108.

21. Wolaner, Robin. *Mother Jones* publisher, personal correspondence. December 27, 1983.

22. Zanot, Eric J. "Unseen But Effective Advertising Regulation: The Clearance Process." *Journal of Advertising* 14 (#4): 44-51, 59, 68.

23. Zanot, Eric J. and Rotfeld, Herbert J. "A Comparison and Contrast of Clearance Procedures in Four Advertising Agencies." *Proceedings of the 1983 Convention of the American Academy of Advertising*. edited by D. W. Jugenheimer. Lawrence, KS: American Academy of Advertising, 1983. pp. 47-51.

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DISCUSSION PAPER ON CONSUMERS AND THE MASS MEDIA: THE RESEARCH AGENDA FOR CONSUMER COMMUNICATIONS

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ABSTRACT

All three studies in this session addressed consumer communications and involved the examination of the formation or quality of consumers' information environment. The studies illustrate the need for more consumer interest research in mass communications in three message areas.

INTRODUCTION

Everyone at this conference realizes -- at least to some degree -- that mass communications influence consumers' welfare. Because we have understood the importance of that topic, this is an historical ACCI conference. There are 5 sessions -- sessions, not just papers -- involving consumer communications. That doesn't include luncheon speakers, poster or roundtable sessions or research awards. From these offerings, you could conclude that ACCI has made consumer communications part of our research agenda.

All three studies are related to my current research areas. That fact presented a problem for me because I was so glad to have company that initially praise was abundant and criticism was difficult. So, please remember that my appreciation of these works outweighs any intentionally constructive observations.

CONSUMER REPORTERS ON TELEVISION: A PROFILE

Research about consumer reporting is timely. A recent poll by the Radio and Television News Directors Association is interesting. When asked which topics respondents wanted TV and radio to cover more frequently, respondents first choice was more consumer information [6]. So, there is a demand for more consumer information in our news media.

My largest concern with the study was the researchers' definition of "consumer reporting." When stations did not have a consumer reporter, directors checked a box that said no consumer reporting was being done. If we decide to use this narrow definition of consumer reporting we will miss most of the consumer-relevant information that is disseminated through the news media. Also, with this definition we are not necessarily going to locate only consumer reporters. "Specialty beats" like the consumer beat, are often covered by a reporter who is assigned several beats. For example, at one news organization one reporter may cover the economic, business and consumer beats. While at another organization, one reporter may cover the environment, health, medical and consumer beats [1]. You can see that these areas are not mutually exclusive. In fact, an accurate observation would be that consumer news cuts across all the traditional departmental lines, from life style to financial, and from real estate to sports [2].

So, every station you contacted does consumer reporting. The news director may not call it consumer reporting or the station may not have a designated reporter with the consumer "beat", but consumer reporting is being done. This definition problem helps explain your finding that about 50% of the returned responses said that they were doing "no consumer reporting."

To be fair to the researchers of this study, their intent was to examine reporters with recognized titles or consumer beats, so their definition is useful. However, if your intent becomes one of examining the type and amount of consumer news being produced or the overall factors that influence that production, then it is valuable to realize that consumer reporters and consumer reporting may be two different concepts.

Second, the education and intervention typology used to describe the different functions the reporters serve and topics they cover is not clear. These are not mutually exclusive categories. Yet, your questionnaire forces the reporter to choose one set of questions. This biases your results in that consumer reporters who do BOTH types of reporting are represented in only one of the categories. Therefore, findings that intervention and education model reporters cover different story topics could be a function of reporters being forced into only one model (intervention or education) on the questionnaire. Based on this particular sample, I feel that strong conclusions in your model areas are premature.

In terms of sources of information used, it is not surprising that these reporters do not frequently use consumer educators or academic journals nor consider them a "best source" of information. Although there is not empirical evidence to support my comments, my personal observations tell me that reporters use state and local government agencies as a source because these agencies disseminate streams of press releases with up-to-date, relevant consumer news. I would add that most journalists aren't aware of consumer-oriented academic journals and those who are find these publications' content too abstract for practical application.

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WORD-OF-AUTHOR ADVERTISING AND THE CONSUMER

I have previously praised Friedman for bringing his popular culture approach to the consumer-interest research area. If any of you are lucky enough to have read Roland Marchand's book, Advertising the American Dream, [7] or to have seen his presentation at this conference yesterday, you can begin to understand the value of historical, cultural, process-centered research in the consumer area.

Friedman is becoming skilled at the art of developing measures for content analyses and for creative techniques to present his findings. Not only has be carved out a new area of research, "Word-of Author Advertising," but in this study, he has tried to gauge the potential worth of such advertising. By worth here, I mean information as a possible positive or negative input into consumer decision making.

The problem with critiquing Friedman's work is that he carefully outlines his methodological limitations. For example, all are familiar with the problems of using evaluation data from Consumer Reports. Because there are no close substitutes, we must tolerate their shortcomings.

Friedman's previous works measured the presence of national brand names in given media. However, they did not measure the treatment of the brands. In content analysis some form of "direction categories" are sometimes used. Frequently, direction is classified using a three point nominal scale such as: favorable, neutral and unfavorable [3]. For example: "She loaded her constant companion through three children -- the dependable Maytag washer" (favorable); "She loaded the Maytag washer" (neutral); and "She kicked the Maytag washer in disgust. As usual, it was stuck on the spin cycle" (unfavorable). Having this directional information about brand-name messages would let us better assess its possible use as inputs into decision making. That is, similar to word-of-mouth advertising, word-of-author advertising can have negative as well as positive persuasive dimensions.

While it is true that we must empirically examine the effects of this and other types of communication on consumers, appropriate methodologies and adequate resources -- especially economic -- are in short supply. The fact that Friedman's works in this area are represented in consumer journals and at our conferences is an indication of an acceptance and therefore tolerance for an empirical approach which historically has gained little representation in the consumer literature. You can witness the growing acceptance of this type of research
the Journal of Consumer Research.

Whether we admire Friedman's specific works in this area is not the question. It is essential that consumer research continues to make room for this and other types of alternative methodological approaches to foster our interdisciplinary roots and to approach understanding consumers within their total environment.

MAGAZINE CLEARANCE AND CONSUMER PROTECTION -- PRELIMINARY FINDINGS

First, I'd like to welcome the participation from two communications' scholars. Interdisciplinary diversity has always been encouraged and appreciated at ACCI.

Their research question was, "Does the advertising clearance process for magazines provide consumer protection against false or misleading advertising?" That is, is this form of media self-regulation adequate as a source of consumer protection?

They cited previous research on the clearance process and its impact on the formation of advertising messages. Yesterday, Roland Merchand examined advertising agencies' input in the development and shaping of advertising messages. Here, Rotfeld and Parsons are looking at the selection process of final advertising messages which actually enter consumers' information environment -- here, in magazines.

After hearing these research findings, we can consider why magazine publishers and ad managers are not usually concerned with protecting consumers from deception. Yesterday afternoon, Robert Kerton had one of the answers when he discussed the "economics of concealment" of negative consumer information [4]. According to Kerton, the economics of concealment illustrate how under non-regulatory conditions sellers will decide to devote resources to concealing negative information.

In the magazine clearnance process, we can see that self-regulation leads publishers and ad managers to decide NOT to devote resources to prevent false or misleading advertising. What are their economic incentives? They do not gain revenue predominantly from their subscribers, but from selling advertising space. In order to attract and keep certain advertisers, they have an economic incentive to "screen" certain ads, not to protect consumers, but to protect their publication's image so that specific audiences are maintained for specific advertisers.

What are the economic disincentives to publishers and ad managers for accepting (or failing to reject) false or deceptive advertising? They could lose audience members and subscribers who are offended or harmed by their advertising. But, the critical issue is economic liability. The liability or economic sanctions for false or deceptive advertising practices is always assumed by the sponsoring company; rarely reaches the advertising agency and almost never touches the carrier of the advertising. In short, magazines have every economic incentive and few, if any, disincentives for failing to reject false or deceptive ads.

These researchers are to be congratulated because this piece makes an interesting roadway into consumer research. We have not often addressed the multiple sources of influence on consumer message dissemination. We also have not addressed the impact these multiple monitoring sources of advertising might have in relation to consumers' welfare.

SUMMARY

All three of the studies in this session addressed consumer communications and involved the examination of the formation or quality of consumers' information environment. The three studies illustrate the need for more consumer interest research in mass communications in three message areas: 1. noncommercial messages in a nonpromotional context (like news); 2. commercial messages in a promotional context (like advertising); and 3. commercial messages in a nonpromotional context (like word-or-author advertising).

REFERENCES

1. Hage, G. S., E. E. Dennis, A. H. Ismach, S. Hargarten. New Strategies for Public Affairs Reporting. Englewood Cliffs, N. J.: Prentice-Hall, 1976.

2. Hohenberg, J. The Professional Journalist. New York: Holt, Rinehart & Winston, 1978.

3. Holsti, O. R. Content Analysis for the Social Sciences and Humanities, Reading, Mass.: Addison-Wesley, 1969.

4. Kerton, R. R. "To Inform or Mislead? Concealing and Revealing in Economic Dealing." Proceedings of the American Council on Consumer Interests 1987 Annual Conference. Denver, CO.

5. Marchand, R. Advertising the American Dream. Berkeley, CA: University of California Press, 1985.

6. USA Today, December 29, 1986, p. D-1.

HUNGER IN OREGON:
PROFILE OF EMERGENCY FOOD BOX USERS

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Carolyn Raab, Oregon State University[2]
Larry Raff, Oregon Food Share[3]

ABSTRACT

Demand for emergency food in Oregon rose 20 percent in 1985-86 although the unemployment rate fell. A Hunger Factors Assessment Survey was designed to study this paradox. Questionnaires were completed by 913 persons who requested food at 19 distribution sites. Half of the household members receiving food were under age 19. Many respondents reported low incomes, health care problems, and unemployment. On the average, emergency food was requested twice a year when other resources were exhausted.

In recent years, the demand for emergency food programs has increased drastically across the United States [8,3]. Between July 1, 1985 and June 30, 1986, Oregon Food Share members provided emergency food boxes to 429,000 people, an increase of 20.5 percent over the previous year [6].

Emergency food programs, usually run by independent charitable organizations, try to alleviate hunger by providing families with an emergency food package designed to last from three to seven days. The purpose of these food programs is to fill the "gap" between a crisis, such as a lost job, and the functioning of public assistance. To be considered an emergency food organization, an agency must limit service to any given household to no more than 12 times during one year.

The increasing use of emergency food packages in Oregon during the years 1982-1984 resulted from the economic recession and high employment rates. However, in 1985, although the unemployment figures in Oregon fell, there was an increase in requests for emergency food assistance, and the demand continues to increase. The Hunger Factors Assessment project was developed to respond to the apparent paradox created by falling unemployment figures and rising emergency food requests.

The Hunger Factors project was designed to study the socio-economic and political factors that put Oregonians at risk of hunger. Specific questions to be answered were: Who are the emergency food box users?, Why do people request emergency food?, Is emergency food box use becoming a way of life?, What other sources of food and income are relied upon by emergency food box users? This paper will address these specific questions.

The project was a unique collaborative effort involving the Oregon Food Share organization (a statewide emergency food distributor), specialists in community nutrition and family resource management from Oregon State University and representatives from the office of Governor, State of Oregon.

METHODOLOGY

To answer the research questions noted above, the researchers developed a four-page, 30 item survey directed at a statewide sample of emergency food clients. Of 317 Oregon Food Share member organizations throughout the state, 19 were randomly selected to administer the questionnaires to householders who requested emergency food. (To be eligible to receive emergency food, household representatives must sign a declaration stating that their income is at or below 130 percent of the federal poverty guidelines for their household size--see Appendix A).

At each of the 19 data collection sites, one member from each household requesting food during a two-week period was offered the questionnaire. The questionnaire was administered between mid-March and mid-April, 1986. A total of 966 were distributed and 913 persons responded (95%). Fifty-three clients refused or were unable to complete the questionnaire even though help was generally offered to those who seemed unable to read or write. The completed questionnaires provided data which relates to the 3165 persons who reside in the respondent households.

In most cases, the respondents completed the questionnaire while waiting to receive a box of food. Participation was voluntary and responses were anonymous. To increase the response rate, the questionnaire included a social utility statement noting that the responses would be "given to the Governor and to State Legislators to help them understand the needs of Oregonians." The results are described below.

WHO ARE OREGON EMERGENCY FOOD BOX USERS?

The median range for household net income from all sources in 1985 was $3,000-$4,999 for the emergency food respondents (Table 1).

Seventy percent of the respondents reported annual net incomes under $5,000. For the month prior to the survey the median household net income from all sources was $376 for the sample. One respondent wrote, "Government people think they don't make enough money but they don't have the slightest idea what it is to have no money."

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TABLE I. Profile of Oregon's Emergency Food Box Users.

Net Household Income for 1985

	N	%
No income	44	6.9
LESS THAN 3,000	259	40.7
3,000-4,999	151	23.7
5,000-6,999	79	12.4
7,000-8,999	48	7.5
9,000-10,999	25	3.9
11,000-12,999	7	1.1
13,000-14,999	11	1.7
15,000-16,999	5	.8
Above 17,000	7	1.1
	636	99.8

Age of Household Members

1-5	607	19.2
6-12	612	19.3
13-18	346	10.9
19-30	911	28.8
31-60	601	19.0
Over 61	88	2.8
	3165	100.0

Family Size

1 person	129	14.2
2 persons		18.1
3 persons	192	21.2
4 persons	190	21.0
5 persons	123	13.6
6 persons	56	6.2
7 persons	26	2.9
8 persons	15	1.7
More than 9	11	2.2
	906	101.1

Residency

Rent	613	71.1
Own home	85	9.9
Live with relative	88	10.2
Homeless	32	3.7
Own mobile home & rent lot	25	2.9
Live in car/van	18	2.1
	861	99.9

Reasons for Getting Emergency Food

Ran out of food	246	28.5
Unemployment	242	28.0
Food stamps, SSI check, AFDC late	121	14.0
Low income, bad economy	97	11.2
Moved	64	7.4
Accident, poor health	40	4.6
Food stamps, SSI check, AFDC less than expected	15	1.7
Spouse died or divorced	14	1.6
Check stolen	15	1.6
Hard luck events	10	1.2
	864	99.8

Unemployment Situation

	Respondent		Spouse/Partner	
	N	%	N	%
Not working & looking	393	47.9	123	39.7
Working full-time	62	7.6	59	19.0
Disabled	131	16.0	45	14.5
Working part-time	117	14.3	46	14.8
Not working & not looking	72	8.8	26	8.3
Retired	34	4.1	10	3.2
Working more than one part-time job	11	1.2	1	.3
	820	99.9	310	99.8

Based on the responses, the researchers estimate that almost one-half (49%) of the household members receiving emergency food were under age 19 (38 percent were under age 13). Only 3 percent were 60 years and older. In the general population of Oregon, 29 percent are age 18 or under and 17 percent are age 60 and older.

At a median size of 3.3 persons, households requesting emergency food were larger than the median 2.6 person Oregon household. That size, however, is the same as the average family size of people living in poverty in Oregon, according to the 1980 census. A general lack of elderly households (or over representation of young families) may explain the sample/general population difference.

The median length of in-state residency for the sample emergency food respondents was 14 years. Of these households, 43 percent had been forced to move at least once within the last five years to find work. Only 10 percent of the study's respondents were homeowners, while 62 percent of all Oregon residences are owner-occupied. Seventy-one percent of the respondents were renters in contrast to 36 percent of the state's housing being renter-occupied. More than 11 percent of the respondents indicated that their homes lacked a source of heat or indoor plumbing, compared to only about one percent of all Oregon housing units that lack these features.

Many emergency food box users also have health care problems. Sixty-four percent of the respondents reported having unpaid medical or hospital bills. Over 50 percent reported that their households were not covered by medical insurance. Furthermore, the majority (71%) indicated that they were putting off medical care because they could not afford it.

WHY DO PEOPLE REQUEST EMERGENCY FOOD

Respondents were asked what event made it necessary for them to come to the emergency food box program (Table 1). The most frequently cited reasons were "ran out of food" (28.5%) and "unemployment" (28%). One-half received food stamps, but only during two months of the last year, on average. For the majority (84%), the food stamps last only through the second or third week of the month. The reasons for this were not explored in this study.

Fourteen percent indicated that benefits such as food stamps, Supplemental Social Security payment or Aid to Families with Dependent Children were late in arriving. Other responses included "hard luck" occurrences, family unrest, and poor health or instability caused by moving. Asked what main life circumstances they would change, if they could, to prevent experiencing such crises, respondents most frequently cited unemployment, food stamps, costs of living, and educational level.

IS EMERGENCY FOOD BOX USE BECOMING A WAY OF LIFE?

According to the study results, emergency food box use is not a way of life for the vast majority of those needing assistance. Such assistance is only sought twice a year, on average (with a range from 1-13). Gainful employment continues to be the way of life preferred by poor Oregonians.

Nearly one-half (48%) of the sample households had unemployed members who were looking for work (Table 1). On the average, these people had been looking for work for six months--three times longer than the median length of time the sample had been receiving food stamps. In many cases, if they did find work it would probably be at a lower wage and benefit scale than their previous position.

WHAT OTHER SOURCES OF FOOD AND INCOME ARE RELIED UPON BY EMERGENCY FOOD BOX USERS?

Emergency food box programs are not a replacement for other, more traditional ways of acquiring food when times are difficult. Friends, neighbors, churches, and relatives play important roles in providing for the needy according to respondents. Government-sponsored feeding and transfer of payment programs such as food stamps, cheese distribution programs, Aid to Families with Dependent Children and Supplemental Security Income are also important for survival.

Thirty-four percent of the reporting households received earned income from full- or part-time employment, 25 percent received income from unemployment benefits or Aid to Families with Dependent Children. One-half of the households were receiving food stamps at the time they requested emergency food assistance.

The households who were not receiving food stamps at the time gave a variety of reasons. The most frequent responses were didn't know if eligible (30%) and did not qualify (23%). Sixteen percent reported they were afraid to apply, did not want to apply, or thought it was not worth the trouble.

CONCLUSIONS AND IMPLICATIONS

The Hunger Factors Assessment project was conducted to help Oregon policy makers and helping organizations understand the needs and life situations of people requesting emergency food in the state. Another equally important objective was to explain the emerging paradox of growing numbers of people in need of food assistance at a time of falling unemployment rates. The findings of this study also provide baseline data against which to measure progress toward ending hunger in Oregon. Although the sample size was limited, findings provide a profile of Oregon Emergency Food Box users.

We have learned that the vast majority of Oregonians requesting emergency food are in real need of assistance. Their incomes are very low, at least one-half are children and many have health related financial concerns. They do not abuse the availability of "free" food offered by the Oregon Food Share system and ask for assistance only when most other resources are exhausted. They ask for help only twice a year, on average. Even those families with employed members have found that illness, lack of child care, late food stamp or welfare benefits, or reduction in work hours, can result in a family financial crisis.

Further research is needed to pinpoint socioeconomic and political that put Oregonians at risk of hunger. However, these data suggest an explanation of the paradox between declining unemployment rates and rising rate of emergency food requests. Children, underemployed adults, and the unemployed who no longer receive unemployment benefits are not included in official unemployment statistics. Yet they made up the greatest portion of this statewide sample of people needing emergency food. Even those who are employed full-time are not necessarily able to make ends meet because their wages are low and health insurance benefits are not available. Under such circumstances an illness or other economic setback can easily cause a situation requiring emergency food assistance. Clearly, employment statistics do not give the full picture of individual need, and may mask important social problems.

Increases in the number of Americans needing food aid suggest that hunger and inadequate nutrition may again be a growing problem in this country. Of alarming concern is the number of children fed with emergency food. Senator Daniel Patrick Moynihan states, "We have become the first nation in history where the children are the poorest segment of the population" (3). Today, children are nearly twice as likely to be poor as adults or the elderly.

The demand for emergency food continues to rise in Oregon as in other states including Utah [9], Missouri [7], Florida [2], Ohio [5], Minnesota [1]. Action needs to be taken now to reduce suffering, make it easier for people to feed their families without resorting to charity, and to preserve individual dignity. This is a task beyond the ability of any one person, organization, or governing body. A comprehensive solution can only be accomplished through an orchestration of programs, legislation, and public support.

REFERENCES

1. Emergency Food Needed by Families and Children. Nutrition Week, January 9, 1986. pp. 4-5.
2. Florida hunger survey expands methodology. Nutrition Week, April 18, 1985. pp. 4-5.
3. Growing up poor. U.S. News & World Report, October 27, 1986. pp. 60-61.
4. Hunger in the midwest: The 'epidemic' spreads. Nutrition Week, May 2, 1985. pp. 4-5.
5. Interchurch council: Hunger in Cleveland. Nutrition Week, October 9, 1986. pp. 4-5.
6. Painter, John. Increasing numbers seek emergency food in Oregon. Oregonian, September 25, 1986.
7. Task force documents hunger in Missouri. Nutrition Week, May 15, 1986. pp. 4-5.
8. Too many hungry people in American communities. Nutrition Week, October 10, 1986. pp. 4-5.
9. Utah: Hunger persists despite church influence. Nutrition Week, July 24, 1986. pp. 4-5.

Appendix A

Poverty Level Guidelines for 1986

Household Size	Poverty Level
1	$5,360
2	7,240
3	9,120
4	11,556

Add $1,880 for each person

INITIAL PURCHASES OF SOUTHEAST ASIAN REFUGEES[1]

Phyllis J. Johnson, University of British Columbia[2]

ABSTRACT

A sample of 685 Southeast Asian refugee households residing in an urban center and a nearby rural area of British Columbia were surveyed on their initial purchases of durable goods. The majority had purchased one or two such items (either a car or a television). Major variables discriminating between purchasers and nonpurchasers were length of time in Canada, employment status of the head of household, and percent of income allocated to necessities. Purchasers had been in Canada longer, had less of their income allocated to food and shelter, and had an employed head of household.

BACKGROUND

Researchers have emphasized limitations in our current consumer behavior research about the sociology of consumption and have stressed the importance of focusing on ethnic and cultural groups existing in North America [cf. 7,11]. In recent years, attention has been increasingly focused on ethnic differences in consumer variables. Some of this interest has occurred because the market groups, such as the Hispanics, have grown in size and have reached a socioeconomic level which makes them a viable market segment to try to understand motivations for and patterns in purchasing [e.g., 4,14]. Researchers focusing on different ethnic groups have suggested that their marketing needs, purchasing patterns, and purchasing power are sufficiently different to warrant attention [3]. Likewise, we cannot assume that their consumption patterns will be merely an amalgamation of American and past cultural patterns. As found by Wallendorf and Reilly [14] in assessing Mexican-American food consumption, a unique cultural style may be evident. Some of the attention on ethnic groups may have derived from a concern that current approaches and understanding may not be appropriate when providing consumer education programs for various ethnic groups. The latter seems of special concern when directing consumer education to those with limited education, for those who are living on social assistance, or for those who are new residents in North America.

Southeast Asian refugees are one of the most recent ethnic groups to arrive in North America. In the United States, Southeast Asian refugee arrivals began in 1975; in Canada, for the most part, 1979-81. The earlier residents have been in North America long enough to begin to be a major market segment. Also the earlier group was the best educated and as such would have had some possibilities for occupational attainment with concomitant increases in purchasing power. The later group, the respondents surveyed for this study, had limited education, transferable work skills, and facility with English. In addition, they arrived shortly before a major economic recession in North America [1]. Given these circumstances which may have impeded employment stability and income adequacy, the latest group of Southeast Asian refugee arrivals may not yet be major purchasers of durable goods. The items purchased may provide some indication of consumer durables they consider the most urgent or most desirable given their income constraints.

Past consumption of durable goods was limited for Southeast Asians, especially those with low incomes. During the war years, production of food, clothing, and durable goods was considered inadequate to meet the needs of the Vietnamese population let alone adequate to provide for consumption beyond basic needs. The availability of American goods on the black market acquainted many Southeast Asians with a variety of durable goods and the possibility to purchase some items. In the isolated areas and in North Vietnam, many of these goods were not readily available. In general, there were usually shortages of appliances because of restrictions on imported goods as well as limited domestic production. Thus, Southeast Asian homes tended to be sparsely furnished. When electrical appliances were available, their cost was prohibitive for the majority of households. Transistor radios, cassette players, and electric fans were fairly common. If additional money were available, a refrigerator or a television (black and white sets were available) were desired. Air conditioning, freezers, and electric stoves were not readily available. Freezers would have been of minimal use for the majority who would not have the finances to buy quantities of food to store, or given the lack of food supplies, quantity purchasing was not possible [12].

Bringing with them knowledge about consumption of durable goods appropriate for their home countries and considerable exposure to consumer goods that would be available in North America, refugees as they began to adjust to life in North America would begin to make some decisions about which consumer goods to purchase.

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[1] The UBC Refugee Resettlement Project has been supported by grants from Canada Health and Welfare NHRDP, Multiculturalism Directorate, United Way, and Woodward Foundation.

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Although the literature on acquisition of consumer durable goods has focused on priorities evident in developed nations, it may provide some background for identifying potential variables related to purchase priorities and for understanding how priorities are established by Southeast Asian refugees. Heterogeneous household durable products that might be considered common purchases in developed countries have been studied. Included have been laundry, entertainment, comfort, and handyman items. Some of the studies include cars, others consider the car as too varied in price with so many models, new and used, available [2]. An additional focus has been inclusion of newer items like microwave ovens to see if people buy this more innovative item before other more traditional household items. In all of these studies, the respondent is presented a list of durable goods and states whether they have them and the order in which the items were purchased. Variables that have been used to compare households on their purchase priorities include: renters versus home owners, socioeconomic status, income, urban/rural residence, and family life cycle stage. As summarized by Kasulis, Lusch, and Stafford [8], general patterns in findings are: 1) a common priority pattern for acquisitions; and 2) inconsistent results on whether there is variation by population group, e.g., family life cycle, social class, income, and urban/rural comparisons. Two additional results of potential importance to our study were found by Kasulis et al.: 1) there are variations in acquisitions by owners/renters and for renters who live in houses versus in apartments or duplexes; and 2) innovative items like a microwave are purchased out of sequence for early adopters. Clarke and Soutar [2] also noted findings of relevance to our research: 1) renters have a different acquisition pattern and have fewer acquisitions than owners; and 2) culture and a time lag in interest in acquiring items may be important in obtaining durable goods.

To our knowledge, new refugee or immigrant groups have not been studied in priorities they place in purchasing durable goods. We do have some limited awareness of how refugees have been able to make purchases, even those with limited personal resources. Refugees share living expenses in quite complex and sometimes culturally atypical households [15,16], often pooling their financial resources with relatives to buy major items, e.g., cars, houses, and entertainment items [13]. There is some indication, at least from the Chinese-Vietnamese perspective, that they would neither pool resources with nor borrow money from friends [17]. One study of Pakistani immigrants to Great Britain suggests that some items, such as microwave ovens, cars, and telephones are owned at higher rates than in the British population as a whole. Also immigrants tend to save money and as such may postpone purchases of durable goods [3].

Our study builds on the priority acquisition research on consumer durable goods and incorporates understanding of the uniqueness of the refugee situation in establishing purchase priorities. For example, priority patterns are assessed as a whole and by household composition. Rather than providing a predetermined list of goods, we focus on refugees identifying a set of goods that is commonly acquired in their initial experiences in Canada. Assuming that they may not be major purchasers of durable goods, we felt it was essential to identify variables related to whether or not they were purchasers. In addition to variables appropriate for North American studies, we emphasize ones that are unique to the refugee's circumstances, for example, the nature of their sponsorship experience, length of time they have been in Canada, and willingness to participate in or to try Canadian customs, leisure, and foods.

In Canada, refugees were sponsored by the government or by private sponsors. In both instances, the refugees were assisted financially for up to a year or until they became self-sufficient, whichever was the shorter period. Basically, the government-sponsored received fairly uniform assistance while there was considerable variability in how the private sponsors assisted the refugees. Evaluations of the program suggest that the privately sponsored benefited from the one-on-one direct assistance in learning about the new society; however, these refugees had little or no input in the decisions made about furnishings and where to live initially. Private sponsors tended to find the initial residence and furnished it with used and inexpensive household items. An effort was made by agencies working with refugees to orient private sponsors to types of items that would be needed in the refugee's residence. Private sponsors, often working on a one-to-one basis, provided information as well as assisted refugees with their purchasing. Some privately sponsored refugees were given latitude in how they allocated their income; others had the decisions made for them by their sponsors [5,9,10].

The government-sponsored were given guidance on how to locate a place to live, but the decision was left to the refugee. If they could not locate a furnished place and it was quite common not to find one, the government-sponsored refugee was given a uniform set of furnishings that were inexpensive but new. Immigrant service providers gave refugees advice on how to purchase and what they would probably need in their new residence. They were also given allowances to cover expenditures based on their family size and comparable to amounts provided under provincial social assistance. Thus, they began to handle their own purchasing fairly early in their resettlement experience [5].

Length of time in Canada may affect purchasing patterns by providing additional exposure to North American goods and by providing opportunities to work and to save towards purchases. After the termination of the sponsorship period, refugees could make more of their own decisions on allocating income to purchases. Orientation to Canadian customs, foods, and way of living may reflect degree of resettlement and interest in buying items commonly owned by North Americans.

Objectives

The purposes of this paper are: 1) to assess initial priorities in purchasing consumer durables; and 2) to identify variables distinguishing purchasers from nonpurchasers.

Assessing which purchases are made by new residents such as the Southeast Asian refugees may provide some indication of priorities given to purchasing consumer durables, given income constraints; and may provide some indication of what purchases they may consider appropriate, desirable, or attainable in their new consumer setting. Identifying variables that affect whether one is a purchaser of consumer durables may give some indication of factors that not only might slow down their participation as consumers, but may also indicate their level of adaptation or participation in other aspects of the new society.

METHODOLOGY

Sampling and Data Collection

The data are from a sample of 685 refugee households who arrived in a Western province of Canada between 1979 and 1981. Respondents were located through agencies working with the refugees and through private sponsors. The complete census of 103 households in a rural community was interviewed. A random sample of 582 households was selected from an urban center. The overall sample was stratified by ethnicity (Chinese-Vietnamese and ethnic Vietnamese or Laotian) and sponsorship (government and private). In addition to household data, individual information was gathered from a probability sample of adults in the urban households and from all of the adults in the rural households. Although heads of households provided household information, they may not have been selected for individual interviews.

Data collection extended over a six month period, corresponding to approximately 18 months after our respondents had arrived in Canada. Interviewers, most of whom were refugees fluent in at least one of the languages of the study as well as English, conducted the interviews after being trained in structured interviewing techniques. Since many subjects were at work during the day, interviews were usually done during weekends and evenings in the refugees' homes.

Instruments

Relying on the expertise of refugee research assistants and agency personnel involved in providing services to refugees, we developed, translated, back-translated, and pre-tested a structured interview covering dimensions of refugee adaptation. For this paper, we focus on household purchasing information usually obtained from the head of the household. In gathering information about the household, we encouraged other family members to be present during the interview. We had been advised that the head of the household would be the one to ask, but that he might turn to others for information as needed.

We asked them if they had made any major purchases. We defined major purchases by giving them examples (e.g., cars, furnishings, stereo equipment, small appliances). If they had purchased we asked: What was the first item purchased? Did they use cash or credit? and Where had they heard about purchasing the particular type of product? We requested this information for up to five purchases, although pre-testing indicated that most households would have made only one or two purchases.

We also requested information on their income and expenditures to have some indication of discretionary income. We emphasized that we were not wanting to know how they used all of their money, just approximate monthly amounts for designated major expenditures. We focused on take-home pay as the tax system was relatively new to our respondents and not yet well understood. We felt refugees would remember the dollar amount they deposited in the bank or the amount they received in cash, rather than what their taxable income was. Income per capita was based on the number of people, including children, who were sharing income and expenses in the household. Percent of income for necessities included food, utilities, and rent or mortgage as the major expenses; clothing costs were not included. In calculating the percent of income for each expenditure, we had a miscellaneous category to account for expenses not requested and the dollar amount of each category was divided by the total monthly income.

Since being asked about finances and purchasing had negative connotations for refugees based on their past experiences in Vietnam [cf. 18], we modified the data collection until it was deemed as nonobtrusive as possible by our refugee advisors. The interviewers also stressed that there were no right or wrong answers -- that is, we did not think some purchases would be better for them to make than others. We wanted to know if they had purchased an item, but we were not interested in the brand or model. This was especially important as some private sponsors had indicated distress at the purchasing practices of some refugees as inappropriate for the circumstances, e.g., expensive cars, expensive brand name clothes, or faddish dressing [16].

Following the views expressed by Grashof and Dixon [6] that households, not individuals, are the appropriate unit for measuring consumption, we focused on the household as the unit of measurement. The refugee households are complex, reflecting traditional and nontraditional forms.

A listing of everyone living in the household unit was obtained at the time of the interview. Residents were listed according to their relationship to the head of the household, and demographic data of age, sex, marital status, and ethnic background of parents were recorded. From these data, the coders classified the household. Since we were uncertain as to how common each living situation might be, we elected to establish new categories every time a household did not clearly fit into an existing category. This procedure resulted in 42 classifications, which we collapsed into seven household types. In determining the final categories, the senior investigators retained categories that were atypical culturally, i.e., husband and wife, one person living alone, and unrelated people living together; or categories typical of the culture, i.e., two, three, and four-generation households. The remaining two categories (others all related and related plus unrelated) are somewhat atypical, and may reflect an adaptive strategy to provide support (financially and emotionally) to refugees separated from their immediate families. The category of "others all related" includes one or more generation of relatives in addition to a basic unit of either husband and wife, parents and children, or three and four generation households. The final category is similar to the one just described, with the addition of unrelated people to a household of all related people.

Demographic and socioeconomic variables were identified from the individual interview responses of the head of household. Since 109 heads of household were not included in the probability sample of individual refugees, analyses requiring demographic data are on a reduced sample size. Ethnicity was based on ethnic surname, ethnicity of father of the head of household, and mother tongue. This procedure was deemed necessary as self-identification could vary depending on perceived benefits or costs of a specific ethnic identification.

Orientation to the new setting was measured by three scales. Respondents were asked if they liked, accepted, disliked, or had never tried eight foods common in Canada (bacon, french fries, breakfast cereals, pizza, fruit pie, hamburgers, cheese, and canned soups). The scale has an internal reliability of .77. Canadian customs included three items: celebrating your birthday, a child's birthday, or Thanksgiving. Our refugee research assistants selected these customs as ones not practiced in Vietnam or Laos. The reliability coefficient is .63. Canadian leisure activities included listening to English language radio, reading newspapers, and watching English language movies. The reliability of the scale is .62.

RESULTS

Purchasing Patterns

Out of 685 households, 12 had incomplete information and were deleted from the analysis. Those deleted fit into three household compositions: singles (2), unrelated living together (9), and related and unrelated (1).

Almost two-thirds (62%) of the households had made at least one purchase. Of those who had made purchases, the first major items purchased were cars (55%) and televisions (30%). The majority (62%) bought new rather than used items; and 70% used cash rather than a loan. The person deciding the model or brand to buy was the head of household or, in the case of unrelated people living together or singles living alone, the person who was interviewed. Friends were a source for suggesting the model or brand for 15% of the households, with family and sponsors having some influence for a few households (6% for each). Salesmen were given by four households as a source for suggesting the brand or model. To see if the respondents were aware of advertising, we asked where they had seen the item advertised. Over half (52%) had not seen an advertisement for the item. Those who had seen an advertisement listed store displays, newspapers or magazines, and television as places where they had seen an advertisement. These patterns repeated for the second item purchased. Almost half (45%) of the households bought a second item; 16%, a third item.

Next, we compiled the number of households that had made specific purchases, as well as purchases made in five categories: entertainment, transportation, large appliances, small appliances, and furniture. As shown in Table 1, furniture, small appliances, and large appliances were infrequent purchases for each of the household compositions. Entertainment and transportation were

TABLE 1. Percent of Households Purchasing Individual Items Within Product Categories (N = 673).

Items Purchased	Household Composition HH1 n=53	HH2 n=45	HH3 n=26	HH4 n=273	HH5 n=31	HH6 n=176	HH7 n=69
Entertainment							
television	8%	13%	50%	36%	39%	32%	19%
stereo	8	7	23	7	3	6	4
cassette recorder	28	29	12	9	3	6	9
camera	4	4	--	2	--	1	--
Transportation							
car	38	20	69	44	90	54	23
bicycle	--	4	--	<1	--	1	--
motorcycle	--	--	--	<1	--	--	--
Large Appliances							
sewing machine	2	--	8	5	--	5	3
refrigerator	--	2	--	2	6	2	--
freezer	--	--	--	--	3	--	--
washer, dryer	--	--	--	2	6	2	--
Small Appliances							
rice cooker	--	2	4	2	--	--	--
vacuum cleaner	--	2	--	1	--	--	1
electric fan	--	--	--	<1	--	--	--
blender	--	--	--	<1	--	--	--
Furniture	2	4	--	3	--	3	1

HH1 = singles; HH2 = unrelated together; HH3 = Husband and Wife; HH4 = Parents and Children; HH5 = Three and Four Generations; HH6 = Related of Multiple Generations and Distant Relatives; HH7 = Related and Unrelated.

the main categories, with a major portion of the family-oriented households having purchased a car. Buying a car seems to be more of a concern for the singles than unrelated people or related and unrelated living in a unit. Of the entertainment items, television sets were the most frequently purchased for all household types except singles and unrelated individuals living together. For these two households, a cassette recorder was a frequent purchase.

Purchasers and NonPurchasers

Univariate analyses were done to determine which variables to retain in the discriminant analysis of purchasers and nonpurchasers. Variables that were not significant at $p < .01$ were religion, age, ethnicity, Canadian leisure, and Canadian customs. We retained ethnicity and age in the analysis as they are variables with some impact on refugee employment and adaptation [1].

From t-test analyses, purchasers compared to nonpurchasers had a significantly higher mean per capita monthly income (M=$346, SD=$180 vs. M=$260, SD=$140); had lived in Canada longer (M=18.6 months, SD=5.7 vs. M=12 months, SD=7.6); were more likely to have tried Western foods (M=14.5, SD=4.7 vs. M=12.4, SD=5.1); and had a smaller percentage of their income allocated to necessities (59% vs. 75%).

From chi-square analyses, purchasers were significantly more likely than nonpurchasers to live in a single family dwelling (66% vs. 56%); to have been privately sponsored (58% vs. 41%); to have an employed head of household (77% vs. 46%); to have some English ability (88% vs. 78%); and less likely to reside in an urban area (77% vs. 90%).

The results of the discriminant analysis are presented in Table 2. Based on the structure coefficients, three variables are moderate to high in their ability to discriminate between households who have or have not made purchases. These variables are time in Canada, head's employment status, and percent of income allocated to basic necessities. From crosstabulation data, households who have purchased have lived in Canada significantly longer, the head was employed at the time of the interview, and the household had less of its income allocated to basic expenditures of food and shelter.

TABLE 2. Discriminating Variables for Households That Are Purchasers and Non-Purchasers (N = 450).

Discriminating Variables	Standardized Coefficients	Structure Coefficients
Time in Canada	-.63	-.79
Head's Employment Status	.19	.59
Percent of Income for Food, Shelter	.49	.56
Income Per Capita	.02	-.39
Head's Western Food Orientation	-.09	-.35
Urban/Rural	-.19	-.29
Head's English Ability	-.00	-.27
Sponsorship Status	.07	-.26
Type of Dwelling	.15	.24
Head's Ethnicity	.10	.11
Head's Age	-.00	.10
Household Composition	.18	.05

Since household heads were not declared and/or interviewed in all households, (notably household type 2, 6, and 7 which are all unrelated, related of many generations and distant relatives, and related and nonrelated), the sample size is reduced.

DISCUSSION

The findings on purchase patterns demonstrate that most of the refugees have made one or two major purchases with priority given to cars and televisions. They have continued to follow traditional patterns of saving for purchases, rather than using credit [12]. They do not yet seem attuned to the marketing cues of advertising, and rely on themselves rather than salespersons, friends, or family members in selecting which model or brand to buy. This finding may be an artifact of who supplied the information -- the head of household usually gave the information, and he is traditionally the one who makes the major decisions.

Since inventories of household goods were discouraged by our advisors [cf. 18], our data are limited in that the existing set of consumer goods, notably household appliances (large and small), furniture, and entertainment equipment could have had an impact on initial purchases made. If refugee households had been provided with most of these items and they were of suitable quality, refugees would not have needed to buy them, or they could have sought a different set of consumer goods that would reflect discretionary rather than basic purchases.

Our results suggest that refugees were, through the sponsorship program, supplied with adequate provisions of furnishings and household appliances over and above what may have been supplied with a rental unit. Therefore, if they had the money, they could buy a car or entertainment items. With a developed public transit system, cars were not a necessity for the households (approximately 80%) located in the urban center. Our respondents may have bought a car, not for its utilitarian function, but because it was available and affordable -- an opportunity that had not been possible in their home country. By the same token, a television set may have been desired, was now affordable, and may not have been included in the goods and furnishings supplied by sponsors.

With refugees buying primarily new items and ones requiring considerable funds (cars), they may not have had additional money available for other purchases. The ability to use cash for the purchases may also indicate that during their two years in Canada, the refugees were able to save only enough money to buy one or two major items.

Assessing purchases within their first two years in Canada may give us an indication of which purchases refugees wanted to make if they had the financial resources to do so, but it is too limited of a time to make strong predictions about future buying patterns. Several questions remain: After the refugees have been in Canada longer, will the acquisition of additional household goods become more salient, or will this depend upon their becoming homeowners? In our current analyses, most of the refugees were renters and being in a house versus an apartment was significant in univariate analyses but was not a major discriminating variable for purchasers. Likewise, two variables reflective of adaptation (fluency in English and orientation to Western foods) and one variable unique to the refugees' circumstances (sponsorship) were significant in univariate analyses but were not major discriminating variables in comparison to length of time in Canada, employment status of the head, and percent of income for necessities. These findings demonstrate that time in Canada may be the key to purchasing -- both from the perspective of having money beyond the necessities available for purchasing, and from the perspective of moving towards eventual replacement of furnishings and appliances supplied by sponsors. Possibly, as Clarke and Soutar [2] noted in comparing two developed nations on priorities in purchases, there might be a time lag in refugees developing a need or a desire for these consumer goods. We might anticipate that as time in Canada continues, more refugees will become purchasers. For with more time in Canada will come increased exposure to consumer goods, more financial stability, and awareness of Canadian consumption patterns.

REFERENCES

1. Bach, Robert L., and Carroll-Seguin, Rita. "Labor Force Participation, Household Composition and Sponsorship among Southeast Asian Refugees." International Migration Review 20 (1986):381-404.

2. Clarke, Yvonne, and Soutar, Geoffrey N. "Consumer Acquisition Patterns for Durable Goods: Australian Evidence." Journal of Consumer Research 8(March 1982):456-460.

3. Dennison, E., Masood, K., and Robinson, H. "The Asian Community as a Consumer Group." Journal of Consumer Studies and Home Economics 9(1985):173-184.

4. Deshpande, Rohit, Hoyer, Wayne D., and Donthu, Naveen. "The Intensity of Ethnic Affiliation: A Study of the Sociology of Hispanic Consumption." Journal of Consumer Research 13(September 1986):214-220.

5. Employment and Immigration Canada. Evaluation of the 1979-80 Indochinese Refugee Program. Ottawa, Ont.: Program Evaluation Branch, Strategic Policy and Planning, 1982.

6. Grashoff, John F., and Dixon, Donald F. "The Household: The "Proper" Model for Research Into Purchasing and Consumption Behavior." Advances in Consumer Research, Vol. 7, Proceedings of the Association for Consumer Research, (1980):486-491.

7. Hirschman, Elizabeth C. "American Jewish Ethnicity: Its Relationship to Some Selected Aspects of Consumer Behavior" Journal of Marketing 45(Summer 1981):102-110.

8. Kasulis, Jack J., Lusch, Robert F., and Stafford Jr., Edward F. "Consumer Acquisition Patterns for Durable Goods." Journal of Consumer Research 6(June 1979): 47-57.

9. Lanphier, C.M. "Canada's Response to Refugees." International Migration Review 15 (1981):113-130.

10. Neuwirth, Gertrud, and Clark, L. "Indochinese Refugees in Canada: Sponsorship and Adjustment." International Migration Review 15(1981):131-140.

11. Nicosia, Francesco M., and Mayer, Robert N. "Toward a Sociology of Consumption." Journal of Consumer Research 3(September 1976):65-75.

12. Pham, Bich Ngoc. The Vietnamese Refugees: A General Outlook. Vancouver, B.C.: Refugee Resettlement Project, University of British Columbia, 1983.

13. Velasco, Alfred F., Ima, Kenji, Stanton, Binh Kieu, and Yip, Beverly C. Adjustment Strategies of the Vietnamese Refugees in San Diego, California: Six Ethnographic Case Histories. San Diego, CA.: Union of Pan Asian Communities, 1983.

14. Wallendorf, Melanie, and Reilly, Michael D. "Ethnic Migration, Assimilation and Consumption." Journal of Consumer Research 10(December 1983):292-301.

15. Whitmore, John K. "Economic Self-Sufficiency Among Recent Southeast Asian Refugees in the United States: A Summary." Refugee Resettlement: Southeast Asians in Transition. Edited by R.C. Nann, P.J. Johnson, and M. Beiser, Vancouver, B.C.: Refugee Resettlement Project, University of British Columbia (1984):49-63.

16. Woon, Yuen-Fong. "Indochinese Refugee Sponsorship: The Case of Victoria, 1979-1980." Canadian Ethnic Studies 16(1984):58-77.

17. Woon, Yuen-Fong. "Ethnic Identity and Ethnic Boundaries: The Sino-Vietnamese in Victoria, British Columbia." Canadian Review of Sociology and Anthropology 22(1985):534-557.

18. Yu, Elena S.H., and Liu, William T. "Methodological Problems and Policy Implications in Vietnamese Refugee Research." International Migration Review 20(1986):483-501.

DETERMINANTS OF RESOURCE CONSTRAINTS EXPERIENCED BY ONE- AND TWO-PARENT LOW-INCOME HOUSEHOLDS

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ABSTRACT

The increasing proportion of families with one parent and the concentration of this family type in the low-income sector necessitates examination of resource constraints experienced by one-parent low-income households. Four models of resource constraint, measured objectively and subjectively, were estimated. Regression analysis of data from 247 one-parent and 247 two-parent households with children confirmed family structure as a predictor of economic welfare. One-parent households experienced lower money income, lower augmented income, lower frequency of financial problems, and lower perceived income adequacy when factors confounding the relationships were held constant.

The concentration of one-parent households in the low-income sector has been accompanied by concern about the "feminization of poverty," "children in poverty," and the economic status of one-parent households. This paper examines family structure as a predictor of resource constraints and the ability of cash and in-kind transfer programs to achieve horizontal equity for one- and two-parent households.

Economic difficulties of single parenthood have been documented in cross-sectional and longitudinal studies. In 1985, the median income of two-parent families was $31,100, compared to a median of $22,622 for male-headed and $13,660 for female-headed one-parent families (U.S. Department of Commerce, 1986). Studies using longitudinal data from the Panel Study on Income Dynamics have affirmed the likelihood of poverty in the one-parent household [3,8,16] and the dramatic decline in real income experienced by widowed, divorced, or separated women [9,24].

RESOURCE CONSTRAINTS

Economic welfare results from command over resources which is described by the budget constraint. Traditionally the budget constraint is defined as money income, but several authors extend the measure to more accurately reflect command over goods and services and reflect relative economic status [6,15,23].

Measurement of the budget constraint is a problem long addressed by family economists and some economists and sociologists, but none have addressed objective and subjective dimensions within one study. Duncan and Morgan [4] used two income-based measures, total family income and an income/needs ratio which was calculated to include differences resulting from variations in family size and composition. Fergusson, Horwood, and Beautrais [5] proposed four measures of economic welfare including income, expenditures, living standards, and home ownership. Grootaert [7] used a full income measure which he defined as money income, income in-kind, imputed value of services from assets, and monetary value of leisure. The poverty threshold used by the United States government is estimated from money income and food costs for families of different sizes and compositions [22]. Moen [14] discussed the need for both objective and subjective indicators of family economic status, and tested objective measures which were designed to link earnings, family size and composition, and employment status. Williams [25] included the dimensions of agreement about distribution of money and psychic income or perceived adequacy of income as subjective measures of well-being.

This study is unique in examining resource constraints experienced by the two household types using both objective and subjective measures of resource constraint. Examination of the resource constraint-household type relationship was not as simple as might appear, because other demographic and economic variables are associated with family structure and confound the relationship. Multivariate analysis was used to remove the distorting influences of other predictor variables.

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METHODS

Theoretical models

Models for each of the four resource constraint measures were developed using the four criterion variables: money income from all sources including government cash transfers, augmented income which added the cash value of food stamps to money income, an index of nine commonly occurring financial problems, and perceived income adequacy which was scaled in five levels. In each model, the predictor variable was one- or two-parent household type and several covariates or confounding variables were used to control for other influences on the criterion variable. The general form of the models was:

$$Y = f(x_1, z_1, \ldots, z_n)$$

where Y is the criterion variable, x_1 is the predictor variable and $z_1, \ldots, z_n$ are the covariates.

Factors affecting resource constraints have been suggested by theory and confirmed by empirical studies. Money income varies with earner age and education, household size, urban or rural residence, employment status, race, age of children, homeownership, and geographic region [21]. Duncan and Morgan [3] found that for two-parent households, the entrance of the wife into the labor force was positively and significantly related to money income and the income/needs ratio. Age of children in the household may reflect a demand on resources and act as a constraint on employment [18]. Another factor relevant for this sample is the employment registration exemption for a Food Stamp or Aid to Families with Dependent Children (AFDC) recipient responsible for the care of a child under age six.

Conditions surrounding receipt of income affect well-being. Receipt of transfer payments would be expected to subsidize low levels of earned income, however, it would not be expected to fully compensate due to planned work incentives [17]. Mirer [13] found receipt of transfers decreased income variability.

Subjective measures of the resource constraint have been related to receipt of in-kind benefits [10,15,20] and expenditure levels [5,7]. Williams [25] found a difference in perceived income adequacy for metropolitan and nonmetropolitan residents.

Feelings of confidence about oneself and about the future have been related to higher permanent income [13]. Whereas other researchers have used income or wealth as proxies for command over resources, the data used in the present study provide a more comprehensive examination of command over resources.

Data

Data used in testing the models were collected under the auspices of the North Central Regional Research Project (NC-152), "Economic Consequences of Selected Provisions of the Food and Agriculture Act of 1977". The study included households residing in California, Indiana, Ohio, and Virginia, which participated in the Food Stamp Program in the 12 months preceding the interview or were eligible for the program at the time of the interview [12].

Although the NC-152 project was designed to determine the effect of food stamp policy, it contained questions of a general nature appropriate for study of other types of economic behavior for the sample households. The data were appropriate for this study because of the concentration of one-parent households in the low-income sector and the strength of food stamp eligibility as an operational poverty line [1].

The segment of the sample used in the present study included 494 households with children under age 18, a total of 247 one-parent and 247 two-parent households. The percentage of one-parent households by state was 51% for California, 58% for Indiana, 41% for Ohio and 44% for Virginia (X^2=6.86, p<.10).

Variables

The two objective criterion variables included monthly after-tax money income from all sources and augmented income which was calculated by summing money income and the cash value of food stamps. The two subjective criterion variables were an index of nine common financial problems and a rating of perceived adequacy of income in five ordered categories. Financial problems included inability to pay for food, housing, medical bills, clothing, utilities, equipment repairs, large bills, and special things for the children and inability to save money. Household type was designed as a dichotomous dummy variable.

Objective model covariates included the continuous variables of household size, earner age, earner education, and number of earners. Dummy variable sets were developed for the categorical covariates of state, ethnicity, and age of children. The dichotomous covariates of urban or rural residence, employment status, receipt of at least one private or public money transfer, and homeownership were treated as dummy variables.

The subjective models included the dichotomous predictor variable, household type, the covariates included in the objective models, and additional covariates. Continuous variables included money income; dollar value of food stamps received; day care, food, shelter, and medical expenditures; and income frequency, regularity, and certainty. Number of private in-kind transfers was treated as a continuous variable in the perceived income adequacy model and as a dummy variable set in the financial problems model due to a curvilinear relationship. Ability to solve problems was a dichotomous variable that was coded as a dummy variable. Financial problems and perceived income adequacy were continuous variables.

Analysis

To determine the parameters of the economic status and household type relationship, the four measures of resource constraint were regressed on household type and characteristics viewed as confounding to the relationship in the general model:

$$Y_i = B_o X + B_2 Z_{i1} + \dots + B_{p-1} Z_{i,p-1} + E_i$$

where Y was one of the criterion variables: money income, augmented income, perceived income adequacy, or financial problems. The predictor variable (X) was household type and the confounding factors ($Z_1 \dots, Z_n$) were viewed as covariates.

Relationships in the four models were tested using the 'all possible subsets regression' procedure available in the BMDP statistical package [2]. The procedure examined all possible regression equations involving the various sequences of potential independent variables which had been used in the initial model. In this analysis, Mallow's C_p was used as the criterion for subset selection and the procedure was conducted once for each model without repeat analysis.

Correlation coefficients were used to examine intercorrelation between each set of independent variables in each model. No two variables had a correlation coefficient greater than model. The F-test of linearity was applied to each set of dependent and independent variables. Direct examination of plots of the residuals against the predicted value of the dependent variable was used to verify assumptions of the regression model.

RESULTS

Univariate Analysis

Univariate analysis established differences between one- and two-parent households. One-parent households reported $248 lower mean after-tax money income ($F = 85.21$, $p<.01$) and $215 lower mean augmented income ($F = 61.42$, $p<.01$). The frequency of financial problems ($F = 7.82$, $p<.05$) and perceived income adequacy ($F = 3.85$, $p<.05$) were also significantly lower for one-parent households. Multivariate analysis confirmed these relationships.

Multivariate Analysis

Money Income Model. The relationship between monthly after-tax money income and household type was significant in the multivariate analysis, when other variables were held constant (Table 1). Two-parent households reported an average of $186 higher monthly after-tax money income compared to one-parent households.

Table 1. Multiple Regression of Money Income Model.

Variable (n=422)	B	Beta
One- or two-parent household type (one-parent omitted)	185.97	.32***
State of residence:		
California (omitted)		
Indiana	-109.11	-.17***
Ohio	- 77.03	-.10**
Virginia	-116.93	-.18
Household size	34.42	.21***
Earner educational level	14.39	.07
Employment status (unemployed omitted)	87.12	.13***
Homeownership (non-owner omitted)	80.06	.12***
R^2	.26	
Adjusted R^2	.24	
F	17.85***	

**p < .05
***p < .01

Variables which contributed to variation in money income in relative order according to standardized regression coefficients were household type, household size, state of residence, employment status, and homeownership. Variables initially included in the model but not retained in the final model included: urban or rural residence, earner age, ethnicity, number of earners in the household, receipt of at least one money transfer, and age of children.

Augmented Income Model. Variables in the augmented income model predicted 26 percent of the variation in money income plus the in-kind value of food stamps. Household type was significantly related to augmented income (Table 2). Two-parent households reported $143 higher augmented income than one-parent households, which indicates that the cash value of food stamps narrows the income gap between the two household types, but does not achieve horizontal equity.

Table 2. Multiple Regression of Augmented Income Model.

Variable (n=413)	B	Beta
One- or two-parent type household type (one-parent omitted)	143.31	.25***
State of residence:		
California (omitted)		
Indiana	-101.11	-.16***
Ohio	- 57.96	-.07
Virginia	- 72.88	-.11**
Earner educational level	20.09	.10**
Employment status (unemployed omitted)	41.90	.06
Age of children:		
≤ 6 (omitted)		
7 - 11	- 72.65	-.10**
12 - 14		
Household size	51.24	.32***
Homeownership status (non-owner omitted)	50.32	.08*
R^2	.26	
Adjusted R^2	.24	
F	15.38***	

*p < .10
**p < .05
***p < .01

Variables which contributed to variation in augmented income in relative order according to standardized regression coefficients were: household size, household type, state of residence, earner educational level, age of children, and homeownership. Variables not retained in the final model were urban or rural residence, earner age, ethnicity, number of earners, receipt of at least one money transfer, and food stamp participation.

Financial Problems Model. The variables predicted 31 percent of the variation in frequency of financial problems; and the relationship between financial problems and household type was significant (Table 3). Two-parent households reported a higher frequency of financial problems compared with one-parent households.

Table 3. Multiple Regression of Financial Problems Model.

Variable (n=400)	Beta
One- or two-parent household type (one-parent omitted)	.11***
State of residence:	
California (omitted)	
Indiana	
Ohio	.17**
Virginia	.09*
Urban or rural residence (urban omitted)	.17***
Earner age in years	-.09*
Ethnicity:	
White (omitted)	
Black	
Hispanic	.12***
Other	
Number of earners in household	.11***
Age of children:	
≤ 6 (omitted)	
7 -11	.08*
12 - 17	
Monthly after-tax income	-.12**
Medical expenditures	-.08*
Shelter expenditures	.14***
Child care expenditures	.07
Number of private in-kind transfers received:	
none (omitted)	
1 source	-.15***
2 sources	-.09*
3 sources	-.07
4 sources	
5 sources	.08*
Perception of ability to solve problems (not able omitted)	-.12***
Perception of income adequacy	-.35***
R^2	.31
Adjusted R^2	.28
F	9.69***

*p < .10
**p < .05
***p < .01

Variables retained in this model, in relative order according to standardized regression coefficients, included: perceived income adequacy (negative), state of residence, rural residence, receipt of one private transfer, shelter expenditures, perception of ability to solve problems, money income (negative), being Hispanic, household type, number of earners in the household, earner age, age of children, and medical expenditures (negative). Variables not retained in the final model were: earner education; employment status; receipt of money transfers; homeownership status; dollar value of food stamps; income frequency, regularity, and certainty; and food expenditures.

Perceived Income Adequacy Model. Variables retained in the model predicted 25 percent of the variation in perceived income adequacy (Table 4). Household type was included as a significant variable, although the relationship was weaker than in the other three models (p<.10). Two-parent households reported a higher perceived income adequacy than one-parent households.

Table 4. Multiple regression of Perceived Income Adequacy Model.

Variable (n = 399)	Beta
One- or two-parent household type (one-parent omitted)	.10*
Earner age in years	-.13**
Ethnicity:	
White (omitted)	
Black	
Hispanic	
Other	-.07
Monthly after-tax income	.10**
Dollar value of food stamps received	-.10*
Income frequency	-.16*
Income regularity	.13**
Income certainty	-.16***
Perception of ability to solve problems (not able omitted)	.10*
Frequency of financial problems	-.37***
R^2 .25	
Adjusted R^2 .23	
F 12.88***	

*p < .10
**p < .05
***p < .01

Variables retained in this model in order of relative contribution were: financial problems (negative), earner age (negative), income frequency (negative), income certainty (negative), income regularity, household type, money income, and dollar value of food stamps received. Variables not retained in the final model were: state, rural or urban residence, household size, earner educational level, employment status, number of earners, receipt of one money transfer, age of children, homeownership, receipt of food stamps, expenditures, and number of private in-kind transfers.

DISCUSSION

The major predictor variable, household type, was a significant predictor of the budget constraint in the two objective models (money income and augmented income) and two subjective models (financial problems and perceived income adequacy), when confounding variables were held constant. Variation in the criterion variable explained by the set of predictor variables in the four models ranged from 23 percent to 28 percent.

Differences in results from the four models confirm the need for simultaneous use of several measures of resource constraint. Household type was the only predictor variable in the set of models that was significantly related to all four measures of economic status. The money income, augmented income, and perceived income adequacy models all revealed that one-parent households had a lower budget constraint. The inclusion of money transfers in the money income variable indicates that transfer programs, including Aid to Families with Dependent Children (AFDC), are not achieving horizontal equity by equalizing incomes for the two family types. The financial problems model indicated that one-parent households reported a lower level of financial problems, a different relationship than shown by the other three models. This lower frequency of financial problems may indicate that one-parent households have adjusted to their situation, that they have lower level of expectations, or they are not placed in situations that would allow problems. Their medical bills and rent may be subsidized through government assistance programs and they are not in a financial position to incur large bills through credit use.

Other relationship patterns were evident in the four resource constraint models. State of residence and age of children were significant in three models: money income, augmented income, and financial problems. Household size, employment status, and homeownership were significant in the two objective models. The higher money and augmented incomes of employed households could refute a common perception that a family might have more income if receiving government assistance. It may be that households with higher incomes own homes, or an indication of the proxy value of homeownership for ownership of assets that could contribute to unearned money income. Number of earners was not a predictor of objective well-being or higher perceptions of income adequacy.

Variables included only in the subjective models that were significant in both subjective models were money income and ability to solve problems. The child care expense variable was included in the two subjective models, due to the absence of a second parent to help with child care; but child care expense did not predict financial problems or perceived income adequacy.

The negative relationship between value of food stamps and perceived income adequacy may reflect the time, transportation, and stigma costs of food stamp receipt. Receipt of food stamps supplements the financial resources of the household; but this may be offset by the lower perceptions of income adequacy associated with the stigma costs associated with receipt of benefits [11].

IMPLICATIONS

Economic welfare of all citizens is an area of commitment for policymakers and professionals who work with families. Periodic measurements of several constructs are needed to assess progress toward economic welfare. Results of this study confirm the economic distress of one-parent low-income households and suggest other determinants of resource constraints.

The significance of household type in all four models and lower economic status of one-parent households in three models suggests the need for government units to evaluate the efficacy of policies and educational programs affecting these families. Cash transfers such as AFDC which were designed to improve equity for the two family structures did not achieve horizontal equity in the money income model. The addition of in-kind income in the augmented income model did not resolve the inequity. If the goal of these programs is to achieve horizontal equity, reevaluation of eligibility and benefit levels must give consideration to one-parent family types. Lower money and augmented incomes for the one-parent households may also reflect the gender pay differential.

The results of this examination of resource constraints for the two household types can help social scientists and professionals who work with families. The present study provides insights as to ways that financial problems and resources differ between one-parent and two-parent poor families. Further study of one-parent households may provide insights as to why their financial problems are lower even though money income, augmented income, and perceived income adequacy are lower compared with two-parent households. One-parent households may have a unique way of dealing with their problems or may have different perceptions of their resource constraints.

REFERENCES

1. Chambers, Donald E. "The U.S. poverty line: A time for change." Social Work 27 (July 1982): 354-358.

2. Dixon, W.J., M.B. Brown, L. Engleman, J.W. Frank, M.A. Hill, R.I. Jennrich, and J.D. Toporek. BMDP Statistical Software - 1983 Printing with Additions. Berkeley: University of California Press, 1983.

3. Duncan, Greg J., and James N. Morgan. "Persistence and change in economic status and the role of changing family composition." Pp. 1-44 in Martha S. Hill, Daniel H. Hill, and James N. Morgan, (ed.). Five Thousand American Families - Patterns of Economic Progress, Vol. IX. Ann Arbor: Institute for Social Research, 1981.

4. Duncan, Greg I., and James N. Morgan. "An overview of family economic mobility." 1983 Agricultural Outlook Conference, Session #13. Washington, D.C.: U.S.D.A., 1982.

5. Fergusson, D.M., Horwood, L.J., and A.L. Beautrais. "The Measurement of family material well-being." Journal of Marriage and the Family, 43 (August 1981): 715-725.

6. Garfinkel, Irwin, and Robert Haveman. Earnings Capacity, Poverty and Inequality. New York: Academic Press, 1977.

7. Grootaert, Christian. "The conceptual basis of measures of the household welfare and their implied survey data requirements." The Review of Income and Wealth. 29 (March 1983): 1-21.

8. Hill, Martha S. "Some dynamic aspects of poverty." Pp. 93-120 in Martha A. Hill, Daniel H. Hill, and James N. Morgan, (ed.), Five Thousand American Families - Patterns of Economic Progress, Vol. IX. Ann Arbor: Institute for Social Research, 1981.

9. Hoffman, Saul & John Holmes. "Husbands, wives, and divorce." Pp. 23-75 in Greg J. Duncan, & James N. Morgan, (ed.), Five Thousand American Families - Patterns of Economic Progress, Vol. IV. Ann Arbor: Institute for Social Research, 1977.

10. Lampman, Robert J. & Timothy M. Smeeding. "Interfamily transfers as alternatives to government transfers to persons." Review of Income and Wealth. 29(March 1983): 45-66.

11. Mac Donald, Maurice. *Food, stamps, and income maintenance*. New York: Academic Press, 1977.

12. McAffee, Estoria L. Fees (Esther). "Food resources of Indiana low-income families as related to food stamp participation." *Dissertation Abstracts International*, 41, 1478. (University Microfilms No. 80-15, 488), 1979.

13. Mirer, Thad W. "Aspects of the variability of family income." pp. 201-212 in James N. Morgan (ed.), *Five Thousand American Families - Pattern of Economic Progress*, Vol. II. Ann Arbor: Institute for Social Research, 1974.

14. Moen, Phyllis. "Developing family indicators." *Journal of Family Issues*. 1 (March 1980): 5-30.

15. Moon, Marilyn & Smolensky, Eugene. *Improving Measures of Economic Well-Being*. New York: Academic Press, 1977.

16. Morgan, James N., Dickinson, Katherine, Dickerson, Jonathon, Benus, Jacob, and Greg Duncan. *Five Thousand American Families - Patterns of Economic Progress*, Vol. I. Ann Arbor: Institute for Social Research, 1974.

17. Musgrave, Richard A., and Peggy B. Musgrave. *Public Finance in Theory and Practice*. New York: McGraw-Hill Book Company, 1980.

18. Presser, Harriet B., and Wendy Baldwin. Child Care as a constraint on employment: Prevalence, Correlated, and bearing on the work and fertility nexus. *American Journal of Sociology*, 85 (March 1980), 1202-1213.

19. Smeeding, Timothy M. "The economic well-being of low-income households: implications for income inequality and poverty." pp. 155-183 in Marilyn Moon and Eugene Smolensky (ed.) *Improving Measures of Economic Well-Being*. New York: Academic Press, 1977.

20. Sullivan, Dennis A. "A note on food stamp reform." *American Journal of Agricultural Economics* 58 (1976): 560-562.

21. U.S. Department of Commerce, Bureau of Census. Characteristics of household and persons receiving selected noncash benefits: 1982. *Current Population Reports, Series P-60, No. 143*. Washington, D.C.: U.S. Government Printing Office, 1982.

22. U.S. Department of Commerce, Bureau of the Census. Money income and poverty status of families and persons in the United States: 1985). *Current Population Reports, Series P-60, No. 154*. Washington, D.C.: U.S. Government Printing Office, 1986.

23. Watts, Harold W. "An economic definition of poverty." Pp. 316-329 in Daniel P. Moynihan (ed.). *On Understanding Poverty*. New York: Basic Books, Inc., 1968.

24. Weiss, Robert S. "The impact of marital dissolution on income and consumption in single-parent households." *Journal of Marriage and the Family* 46 (February 1984): 115-117.

25. Williams, Flora L. "Money income, nonmoney income, and satisfaction as determinants of perceived adequacy of income." Pp. 102-126 in Jeanne Shull (ed.). *Proceedings of the symposium on Perceived Economic Well-Being*. Urbana-Champaign: Illinois Agricultural Experiment Station, 1981.

LOW-INCOME CONSUMERS -- DISCUSSION

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ABSTRACT

Three very different research questions are addressed: emergency food box use in Oregon, purchase of consumer durables by Southeast Asian refugees in Canada and determinants of objective and subjective resource constraints of one- and two-parent low-income families.

HOLYOAK, RAAB AND RAFF PAPER

This paper describes the outcomes of the Hunger Factors Project, a unique collaborative effort in Oregon involving a statewide emergency food distributor, university nutrition and family resource management faculty and representatives from the Governor's office.

The authors state that the project was designed to identify the socio-economic and political factors that put Oregonians at risk of hunger. Given the sweeping nature of this research objective and the limited resources available to accomplish it, it is easy to see why the results reported here do not fulfill that objective.

One problem relates to the sample surveyed. Because only 19 of the 317 Oregon Food Share member organizations participated in the survey, how representative of all emergency food box users in Oregon the survey respondents were is uncertain. Since not all Oregonians at risk of hunger may use emergency food boxes, their input would have to be obtained in other ways in order to fulfill the research objective.

There is still value in a limited sample survey focusing on public policy issues since they may provide impetus for future research as well as raise questions that policymakers may need to start addressing. For this reason, [illegible]s interested in the answers to the specific questions the authors posed. These questions were: (1) Who are Oregon emergency food box users?, (2) Why do people request emergency food?, (3) Is emergency food box use becoming a way of life?, and (4) What other sources of food and income are relied upon by emergency food box users?

Since the discussion relevant to each question was fragmentary, I was unable to obtain any satisfactory answers. Even when the space limitations of a paper of this nature are taken into account, the authors still fail to answer the questions posed. Table One provides some explanatory data, but it is still not detailed enough to provide needed illumination. In addition, coverage of all sections is spotty since most of the table provides information related to the question "Who are Oregon emergency food box users?"

In some instances the fragmentary discussion creates confusion. For example, in the section relating to why people request emergency food the authors state that respondents looked to friends, neighbors, self-help groups and to Oregon Food Share for help when they need food. The basis for this assertion and its relevance to the section are not explained. The authors also fail to provide an explanation for what can be considered a striking finding--that one-half of all respondents received food stamps, but only during two months of the last year. In addition, the finding that for the majority (84 %), the food stamps last only through the second or third week of the month is a bit unclear within the context of this section.

The authors state that the average number of times assistance was sought was twice a year. It would have been relevant to know what the range was since there may be a certain proportion for whom such aid is fairly common. While twice a year may not be very frequent, if a segment of the population has to seek this aid every year, certain policy changes need to be made.

The value of research such as this is in its public policy implications. Since this research was conducted to provide insights into a statewide problem, there should have been some clear-cut implications specifically related to Oregon. In addition, survey results should have been viewed within the framework of nationwide food policy since this often impacts on what is happening statewide.

Land grant universities, such as Oregon State University, were established as a result of the 1862 Morrill Act. The philosophy underlying this law was the practical view that knowledge should be applied to improve the human condition. The Hunger Factors Project is important because it represents an attempt to utilize the research expertise of a land grant university to provide data needed to solve a pressing social problem. If adequate resources are provided for such collaborative projects, research findings can provide the knowledge which can be applied to improve the human condition.

PRITCHARD AND WILLIAMS PAPER

Although done on a small, geographically limited sample, the Pritchard and Williams study provides some insights into the resource differences between one- and two-parent low-income families and also raises questions to be answered by future research.

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I agree with their view of economic well-being as a function of the flow of goods and services over which a household has command. One important determinant is money income, both earned and unearned. The authors also recognize the value of nonmoney income in the form of in-kind services and used augmented income (money income from all sources plus the cash value of food stamps) as an independent variable. Inclusion of the value of other in-kind services such as public housing, energy assistance, childcare, etc., would have been a more precise measure of augmented income. It is unclear, though, whether this information was in the NC-152 data used by Pritchard and Williams. Future studies, however, should include the value of a broad array of in-kind services in their measure of augmented income.

I am not sure whether subjective resource constraints is the best term for the variables of perceived financial problems and perceived adequacy of income. Nevertheless, these measures are important because they reflect factors that significantly influence the quality of life of individuals and families.

When examining the objective constraints studied, the influence of household type on money income is not surprising. Controlling for family size and other factors, two-parent families would be more likely to have at least one member in the paid labor force. The positive influence of household size is also understandable since the number of earners has been found to vary directly with household size.

Given the differential in money income, it is not surprising that the augmented income model showed that adding the value of food stamps did not achieve horizontal equity. It is somewhat comforting to find that food stamps did help to reduce the resource gap between family types. Perhaps an augmented income model containing the value of other in-kind transfers might show more progress towards achieving horizontal equity.

Since all sample families were low-income, the finding that two-parent families had more perceived financial problems than one-parent families does not seem unusual. Because one-parent families are more apt to be low-income, I suspect that a survey of the general population would find that one-parent families had more perceived financial problems than two-parent families. I should mention that although family type was statistically significant, its influence on perception of financial problems was much less than that of the perceived income adequacy variable.

Similarly, although both were statistically significant, frequency of financial problems was much more influential in explaining variation in perceived income adequacy than was family type.

Time is a constraint that needs to be examined in future studies. This is because the number of adult hours available for both market and nonmarket work is a valuable household resource. At any given level of family size, one-parent families usually have fewer adult members (and fewer available adult hours) than two-parent families. For this reason, the income differential between the two family types is understated. This is because the ability of one-parent families to substitute more time-intensive home-produced goods and services for more expensive (dollarwise) market goods and services is much more limited than that of comparable two-parent families.

JOHNSON PAPER

Johnson studied Southeast Asian refugee households in British Columbia in order to assess their initial priorities in purchasing consumer durables and to identify variables distinguishing purchasers from nonpurchasers.

The majority of sample households had made at least one purchase. Among purchasing households the most frequently acquired items were cars and television sets. Few households bought large appliances, small appliances or furniture. A partial explanation is that most households were renters who have been found to spend less on large appliances and furniture than homeowners. Another factor is that some items, such as small appliances and cameras, may have been received as gifts and would not have been purchased by the household. The items used in the survey may have also been a factor. Perhaps the addition of microwave ovens, dishwashers, portable heaters, etc., might have increased the number of purchasers.

A closer examination of other household budget items might shed additional light on the patterns found. Large education expenses might indicate that these households were investing in the human capital of its members rather than in consumer durables. Since most households were renters, they may have chosen to forego current consumption in order to save for a down payment on a house.

Johnson found that the refugee households followed the traditional practice of saving for purchases instead of using credit. It would be interesting to see whether continued residence in Canada will be associated with any change in this pattern.

As in previous studies, Johnson's findings demonstrate the positive influence of income on durable goods consumption. Being in a house versus being in an apartment was not influential, but this finding is not surprising since most households were renters. With increased time in Canada it is likely that many of the refugee households will become homeowners so that future studies will probably find homeownership to be influential.

In attempting to find a rationale for this research Johnson stated that some of the attention focused on ethnic groups may result from a concern that current approaches and understanding may not be appropriate when providing consumer education programs for ethnic groups such as new residents in North America. For this reason I feel she should have provided some specific examples of how her findings could be used to implement consumer education programs for Southeast Asian refugees.

THE DEMAND FOR LOCAL TELEPHONE SERVICE: CONSUMER POLICY IMPLICATIONS

R. D. Reinking[1]

ABSTRACT

Telephone service has several unusual consumer demand attributes. These characteristics include the concepts of a necessity, few substitutes, two-part tariff, option demand, unlimited calling option and "binary demand." The presence of these uncommon demand factors suggest of specific consumer policies. Optional local measured service and Lifeline discounts for low income are cited.

INTRODUCTION

The consumer market for telephone service has a number of characteristics which make it different than most other goods and services that consumers purchase. The unusual demand attributes have significant public policy implications. Consumer demand characteristics suggest that connection to the telephone network can best be maximized with Lifeline service and local measured service options.

Examination of this topic will begin with a discussion of the uncommon aspects of consumer demand for telephone service. The "binary" characteristic, the two-part tariff characteristic, and the availability of substitute products will be defined and described. Next, the market perception that telephone service is essential will be coupled with a review of the results of studies that quantify telephone demand. These data present a good picture of the nature and quantities of telephone demand. Following an overview of the pricing parameters of basic local telephone service today, the market demand description leads to policy implications. It is suggested that discounting the price for all residence telephone service is not an optimal approach to making telephone service available to the maximum number of households. Rather, a Lifeline offering targeted to low income households and local measured service options available to all consumers will maximize the availability of telephone service.

ATTRIBUTES OF TELEPHONE DEMAND

This paper focuses upon the connection of residence customers to the telephone network and consumers' local service. It does not consider, to any large extent, other telephone services such as long distance calling, the number of telephone sets a consumer has, or added telephone features such as Touch-tone. The service which we examine may be called basic local service, residence service, basic service, or just telephone service. The nature of the demand and the consumption of business customers is quite different than residence customers and is not considered here. The term "binary" demand will be used throughout this paper. It has been coined by the author to describe an unusual attribute of telephone demand, but has no other known basis for its use.

Binary Attribute

When we consider the consumption of residence telephone service, we quickly find that few households do not have one telephone line, and even fewer have more than one telephone line. This phenomena of consumers having either one or zero telephone lines is what is meant by "binary" demand. The latest Federal Communication Commission (FCC) report shows that over 92% of all households in the U.S. have a telephone and 94% have telephone service available to them. [2, Table 2]. Therefore, we can say few households are without telephone service. At the same time, in Mountain Bell, we find less than 1% of our residence customers have more than one line. This characteristic is not common in other consumer products or services. Typically we find that individual consumers will purchase varying quantities of a good depending upon their preferences, the price, consumer income, and other factors. For instance, while many people have no automobiles, one car, two car, and even three car families are common in America today. We are now seeing even higher numbers of cars in families with teenagers and with the growth in the market for specialty vehicles such as motor homes and four wheel drives. The amount of most goods purchased, like books, pork chops, note pads, stamps, and nearly everything we purchase, will vary widely from household to household across a range. But, telephone service does not. We purchase one or zero.

The aggregate percentage of households which have telephone service is influenced by aggregate income, price, and other factors. However, the aggregate penetration variation between geographic areas and over time is caused by different percentages of households not having one and zero telephones rather than individual households purchasing multiple lines as price and income vary. The important implication of this demand characteristic is that nominal decreases in the price of telephone service may influence some of the 6% to 8% of the households without telephones to purchase service, but price reductions have little or no influence on the purchase decision of the 90+% of the residences which already have telephone service. As a technical note aside, this characteristic should probably be considered when applying the economic concept of price elasticity although the interpretation of the elasticity coefficient is not impacted by this demand characteristic.

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[1] The views contained in this article are those of the author and not necessarily of Mountain Bell.

Two-part Tariff

Another unusual characteristic of telephone demand is the "two-part tariff" notion explored by W. Y. Oi, in "A Disneyland Dilemma: Two-Part Tariffs for a Mickey Mouse Monopoly." [4, pp. 79-96]. This concept applies to a product or service which has an entry fee that is fixed, but also has a per use fee which is dependent upon the amount of consumption of the good or service by each individual consumer.

To illustrate the two-part tariff notion, let us consider the instant Polaroid camera rather than the Disneyland example of Oi. The key elements of this concept are first, the consumer must pay a fixed amount as an entry fee. For instance, in order to take a Polaroid picture one must first purchase a camera. The price of the camera is fixed and does not change with the number of pictures taken with the camera. This is similar to the access or connection to the telephone network, which is fixed regardless of the usage. Second, in order for the consumer to get the benefit of the camera, film must be purchased. The amount of film that each individual customer purchases is different and is a function of the number of pictures each consumer wants to take with the camera. In a similar way, with long distance toll or local usage sensitive prices, the amount of usage of the telephone network purchased by individual customers is different. Third, the consumer purchases both the camera and the film in order to receive the benefit or value of the final picture, which is a function of both the entry and the usage sensitive element of the two-part tariff. Likewise, in the main, the telephone subscriber receives benefit from the communication, not from the access line per se, nor the fact that the telephone is "off the hook" for a period of time. Most economists separate this unique type of good and distinguish it from typical complimentary products such as bread and butter. Economists make this distinction because of the fixed entry fee, the part of the consumption that varies with the use between customers, and the benefit which the consumer receives being related to the combination of the fixed and usage sensitive parts. The significant implication of this characteristic to residence telephone service is that, in order to receive any value from telephone service, all customers must have one access line or connection to the telephone network which is not sensitive to the amount of usage.

This connection is essentially a pair of copper wires which stretch between the customer's house and our central switching office. However, individual residence customers make from zero to well over 1,000 local calls per month and zero to more than 300 long distance calls per month. The value that a specific consumer receives is a function of the single access line plus a variable amount of usage according to each individual consumer's calling habits. This presents the "Disneyland Dilemma." If a single part price is charged with this type of product and demand, some consumer is hurt. Let us assume that local telephone service costs $15 per month. Hypothetically, if all residence customers were charged a flat additional amount for long distance calling of $50 per month, customers who did not make any long distance calls would receive no benefit for their payment. Many customers would disconnect their telephone service because the total value they receive from the connection, local usage, and toll usage would be less than the minimum price of the $50 for long distance plus $15 for local service. Likewise, some low usage customers may not subscribe because the flat rate of $15 is too high while they would be willing to pay $5 per month plus a few cents per local call they originate. Consequently, a two-part tariff which permits the fixed entry fee to be lower than a single part price and usage priced separately is appropriate.

Option Value

Let us now move to another characteristic of telephone demand which has had little analysis. Taylor refers to option demand for access in Telephone Demand: A Survey and Critique. [8, pp. 39-42]. Option value refers to the fact that a telephone line has some value to some consumers even if it is never used. The option value is created by the existence of the connection to the network. The connection is available to be used should the purchaser choose to exercise the option of making a call. For example, a consumer may want a telephone available for emergency calls only, and may never use the telephone if an emergency does not occur. A telephone line connection is much like an insurance policy on our automobiles. Payments are made to the insurance agent, and value is received, even if no claim is filed. This characteristic becomes very important in policy formulation when it is extended to recognize the current pricing mechanisms for telephone service. That is, long distance and local measured service calls are billed to the originator only. There is no charge for receiving a telephone call. Consequently, the purchase or existence of a telephone access line includes not only the option to originate calls, but also the option and ability to receive an unlimited number of local or long distance calls. This ability to receive calls enhances the option demand value. As a result of the option value, many customers purchase telephone service even though they have no long distance or local usage in any month. In fact, about 7% of the telephone customers make no calls in any given month. These customers receive value from the access line alone but would receive no value from any fixed usage related charge.

Unlimited Calling Option

For the last 50 years, most residence consumers have received telephone service under fixed or flat rated local tariffs. Under that pricing arrangement consumers paid a fixed amount per month and received the connection to the network along with the ability to make unlimited local calls. With the widespread introduction of local measured service during the early part of this decade, studies revealed another demand characteristic related to local telephone usage. Reinking and Berryhill called this "the unlimited calling option." [1, p. 31]. Their studies of consumer behavior and attitudes revealed that some consumers place a value on having the ability to pay a fixed amount per month for local usage regardless of the amount of usage they generated. Research revealed that the unlimited calling option had a value greater than the value of the usage alone. On the other hand, their research showed that other consumers placed little or no value on the unlimited calling option. This is significant because if only fixed flat rates for local service are offered, consumers who place no value on the unlimited calling option are forced to pay for it anyway. Further, if the flat unlimited calling option is not offered and all calls are measured, consumers who value the unlimited calling option are denied the ability to purchase what they want. This leads to the conclusion that both flat and measured local telephone service should be provided. The consumer then has the individual choice and can match his or her purchase with the benefit received.

Necessity

Telephone service is typically viewed as a necessity in America today. Although the term "necessity" is not accurate in its purest sense, and life can be sustained without it, Americans view telephone service as a necessity. This has been demonstrated repeatedly through surveys of consumers for many years. In a University of Utah public opinion survey, 73.1% strongly agreed and 20.3% somewhat agreed when asked if local telephone service was a necessity to them. [7, p. 39]. Mountain Bell surveys in various states have shown between two-thirds and three-fourths of the residence customers respond that telephone service is a necessity when asked if they considered it a necessity, convenience, or a luxury.[2] A number of econometric studies have shown the price elasticity of basic residence service to be approximately -.04. Price elasticity is, roughly stated, the percent change in quantity of a product sold divided by a percent change in the price of the good. In other words, the elasticity value of -.04 means that the 100% increase in the price of residence telephone service would cause a 4% decrease in the quantity of residence telephone lines. Although no conclusions can be drawn from the value of the elasticity, the extreme inelasticity of residence service tends to imply that telephone service is viewed as a necessity. If telephone service is viewed as a necessity, a policy of maximizing the size of the market and the ability of consumers to purchase the product follows. Indeed, this has been the policy of the industry and the Nation since the beginning of this century. This overriding policy, called universal service, has enabled the U.S. to lead the world in the percentage of households with telephone service by a wide margin and respond to the perception of telephone service as a necessity.

Substitute Products

Lastly, we should note that there are few practical substitute products for basic residence telephone service. Although visiting, letters, CB radios and even carrier pigeons are means of communications and technically are substitutes for telephone service, few of us really consider them as alternatives when we decide whether or not to have a telephone in our house. It is also true that there is a growing number of different providers of telephone service which provide consumers a choice of companies to connect them to the telephone network. However, since this analysis examines the demand for the entire telephone market rather than a specific provider, the growing competitive alternatives do not represent substitute products in the context of this analysis. Cellular mobile telephone service is the only practical substitute today, but its price and availability currently limit its impact on the residence market to a negligible level. The significance of the lack of substitutes for telephone service is merely to tie together the other aspects of demand. If there were reasonable alternatives for this necessary product, the policy issues would be simple - consumers would choose between the alternative products and competition would flourish. We would not have to be concerned with the unusual attributes of telephone demand and the resulting policy implications. But, telephone substitutes are limited.

To summarize the characteristics of telephone demand, we find that consumers view the telephone as a necessity with no close substitutes. Just having a telephone line or connection to the network has value in itself, but the majority of the value of telephone service to consumers is derived from the usage of the service. Both local and long distance usage, hence the total value, varies widely among individual consumers. We also find that nearly all residences have zero or one telephone line rather than a wide variation in the number of lines in individual households.

QUANTIFICATION OF THE MARKET

Approximately 93% of the households in America have residence telephone service. This is far higher than any other nation in the world and was the measure given most attention in the industry until the early part of this decade. However, studies performed using 1980 U.S. Census data have caused many people to focus more of their attention upon the percent of households with telephone by income group. Figure 1 shows the relationship between telephone penetration and income in 1980 for the U.S. The vertical axis shows the percent of households with a telephone, while the horizontal axis represents income with respect to the poverty level in 1980. The first bar is less than poverty level, the second bar one to two times the poverty level, and so forth. Also noted is the mean income of each group.

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[2] Various Mountain Bell consumer surveys conducted between 1981 and 1984.

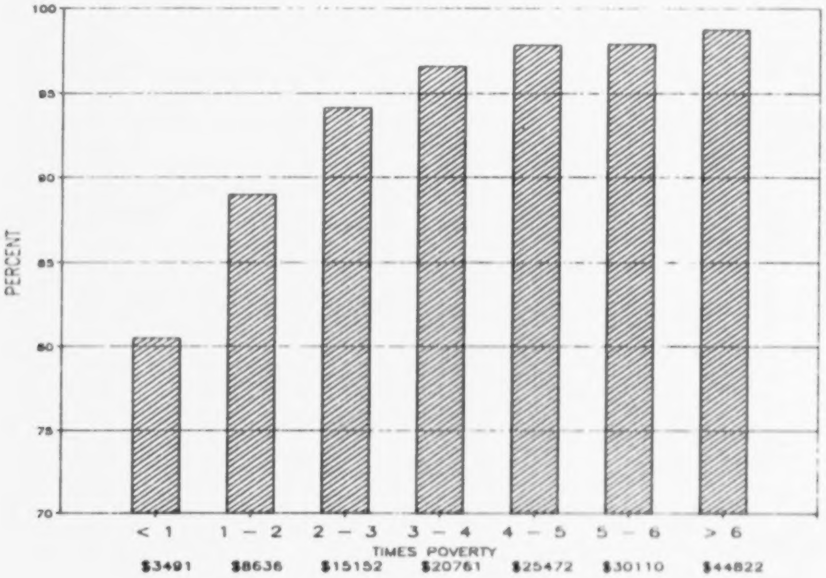
These revealing data expose what is hidden by the overall 93% average penetration. At a household income level between $15,000 and $20,000, telephone penetration becomes virtually constant at approximately 96%. Below $15,000 the penetration level is very sensitive to income. Indeed, less than 81% of the households in poverty have a telephone. When we note that these are U.S. Census data taken at a point in time, we can pragmatically conclude that nearly everyone with income above $20,000 has a telephone.[3] It is only the lower income households who do not have universal telephone service and who are sensitive to modest changes in the price level for telephone service. This observation is confirmed quantitatively by the price elasticity by income level shown in Table 1. Considering these data in context with the unusual characteristics of telephone demand, we find a compelling case for a targeted low-income Lifeline offering, a conclusion that will be explored subsequently.

TABLE 1. Residence Price Elasticities by Income Level (1980).

Times Poverty	Mean Income	Price Elasticity
Below Poverty	$ 3,491	-0.145
1-2 Times Poverty	8,636	-0.096
2-3 Times Poverty	15,152	-0.058
3-4 Times Poverty	20,761	-0.040
4-5 Times Poverty	25,472	-0.030
5-6 Times Poverty	30,110	-0.023
Above 6 Times	44,822	-0.015

From our examination of income, the only demographic variable that heavily impacts telephone penetration, let us now turn to price. The structure of prices offered to residence consumers and its impact on telephone penetration

FIGURE 1. Telephone Penetration and Income.



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[3] At any point in time there are a small percentage of households who will not have telephone service at any price. A few people do not want a telephone. Other households will be waiting for a telephone to be installed or moving between residences and not yet able to have service installed. Consequently, we can never expect 100% of households to have a telephone at a point in time.

levels was explored by Doctor Perl in his 1983 study. He concluded, "Second, access demand is primarily a function of minimum rather than average access charges." [5, p. 2]. In other words, the penetration level is primarily a function of the entry fee or first part of the two-part tariff structure. Consumers react mainly to the lowest price alternative which will allow them to be connected to the network. Consumers react less to the price of usage or higher price alternatives such as flat rated service. He estimated, hypothetically, at a $20 flat monthly rate (in 1980 dollars) the U.S. would have an 89.8% telephone penetration without measured rates. However, with the same flat rate and a measured option with a $6 access price and a 10¢ charge for local calls available to consumers, 92.4% of the households would have telephone service. [5, p. 17]. This is consistent with Mountain Bell studies which have shown that low income consumers are significantly more likely to choose measured service when offered a choice between measured and flat telephone offerings.[4] The lower entry fee, however, is also effective in helping consumers at any income level afford telephone service and can maximize their benefit-cost ratio. These models clearly demonstrate that due to the two-part nature of demand for telephone service, lower price connection options without any usage allowance helps universal service goals. However, the power of local measured service is limited by the fact that the usage is also a source of consumer value and the relative magnitude of the cost of the connection versus the cost of providing local usage.

POLICY ANALYSIS

We have seen that the demand for residence telephone service is binary. Less than 1% of American households have more than one telephone line. Low prices have not expanded the market vertically or encouraged individual consumers to purchase more telephone lines. Rather, low residence prices encourage more households to purchase one line. Nearly all households with median income or higher have a telephone, but only about 80% of the households with income below poverty have telephones. Nearly all of the sensitivity to current telephone price levels is concentrated in the lower income groups. Within modest price ranges, lower telephone prices have little effect upon the consumption of middle or higher income households. They continue to purchase one telephone line, no more - no less. On the other hand, lower telephone prices significantly encourage lower income households to purchase telephone service. Concentrating lower prices or discounts upon the low income customers only can have far greater impact than providing equal rates to all consumers. The impact of a lower Lifeline rate targeted to low income households is even more dramatic when we assume a roughly constant revenue to the firm.[5] This is due to the relatively large number of households which are not impacted by modest changes in the telephone price. For example, if a Lifeline discount of $1 per month was provided to 10% of the low income consumers who are most sensitive to price, the offsetting increase on the other 90% would be 11¢ per month and result in no perceptible change in their purchase. Further, though beyond the scope of this investigation, it can be maintained that Lifeline discounts are rational from an economic perspective and a reasonable utility classification. [6, pp. 32-37].

Lifeline rates are clearly the single most important public policy tool available today for the maintenance and encouragement of ubiquitous residence telephone service. The relatively small proportion of consumers who are sensitive to modest price changes receive the full benefit of the discounts. The FCC has recognized this and waives the Federal Consumer Access Line Charge where states have instituted local Lifeline offerings. Today, the federal charge is $2 per month and is waived up to its full amount on a matching basis for states that have enacted state Lifeline rates. Individual states are employing Lifeline rates in increasing numbers. In February, 1987, fifteen states had enacted or had taken approval steps to enact low income Lifeline rates. This should be the top priority for those interested in maintaining universal telephone service.

The second easily employed measure to help promote widespread access to the telephone network is support for or implementation of a less costly service option than the traditional flat rated single-party residence service. The most common lower priced alternatives are party-line services and local measured service. Historically, two-party, four-party, or eight-party lines have provided lower priced options. However, multi-party service has become extremely unpopular for companies and consumers alike. Companies are often faced with equal or higher cost per customer when multi-party lines are provided. Consumers today generally detest multi-party service due to the busy condition on the line, lack of privacy, interruptions, and all of the other drawbacks of party-line service chronicled in literature. Surveys even show that many who have multi-party service do not like it. Mountain Bell surveys found that nearly 31% of multi-party customers are dissatisfied with their service while about 2%

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[4] Studies conducted by Mountain Bell in New Mexico, Idaho and Montana.

[5] An assumption of a fixed total revenue is often applied to telephone service. Regulated industries are limited in the maximum rate of return and can file for increased rates if returns are unreasonably low. Consequently, rate adjustments in utilities often taken the form of a zero sum game to meet a specified total revenue amount from all services and consumers.

of the local measured service customers were not satisfied with their service.[5]

The most prominent local residence pricing alternative to the traditional flat monthly service is local measured service. This pricing structure is designed to reflect the nature and occurrence of both the benefits received by the consumer and the cost incurred by the company. This offering employs the two-part tariff or more accurately a multi-part tariff concept. Previously we have seen that the mere connection to the telephone network and the ability to receive incoming local and long distance calls provides a value to some consumers, although some customers may not originate any calls. The local measured service access line provides those capabilities at a lower price than the traditional flat rated service which includes some amount to pay for usage. With a local measured service option, usage is priced separately based upon the calls which are generated by each individual subscriber. The usage, with a demand characteristic that is not binary but varies over a wide continuum for specific customers, is priced according to the quantity consumed. This permits low usage customers who gain little value from the usage to pay a lower price, while higher use customers who receive greater benefit from the usage pay a higher price. Again, this is in keeping with both the two-part character of the demand as well as the cost of producing the service. When local measured service is combined as an option with the traditional flat rated local service, consumers who place value in the predictable monthly bill, unlimited calling and other features of the unlimited calling option are also able to obtain the service and value they want.

The combination of flat and measured services offered simultaneously permits individual consumers to match the value of each of the unusual characteristics of telephone demand with their purchase decision. The lower entry fee for connection to the telephone network permits more households to have telephones and maximizes the number of households with telephone service. Local usage as well as toll usage, which is not binary in nature, can be purchased by individual consumers to the extent that their individual benefit warrants. Other consumers who find benefit in the unlimited calling option are also able to purchase that type of service. Permitting the consumer the choice among these alternatives gives individual consumers the ability to get the services they want and avoid paying for the benefits others receive. For these reasons, consumers should support the concept of an optional local measured telephone service.

In summary, our research suggests two practical telephone pricing steps that will have a major impact upon the maintenance or expansion of universal telephone service. The primary policy that will have the greatest impact on bolstering residential connection to the telephone network is support of a means tested Lifeline discount. Secondarily, optional local measured telephone service can help consumers better afford a telephone, as well as providing increased fairness and choices. This conclusion can be supported not only with our research, but also through studies performed by non-industry sources. We have recently applied a model of residence telephone service in Idaho developed by the Idaho Commission staff using 1980 census data, prices, income and so forth. [3, pp. 1-15]. Adjusting this model to account for inflation and telephone industry changes since 1980 permitted us to estimate that with the measured service option in place in Idaho at this time and a Lifeline program with federal matching, telephone penetration could be increased by greater than 1% at today's rates or maintained at the current penetration level even if basic residence rates were nearly 50% higher.

CONCLUSIONS

Consumer demand for basic residence telephone service is characterized by several unusual attributes. Connection or access to the telephone network is "binary" in nature. Local and long distance calling is two-part in nature and varies between individual consumers over a wide continuum. Although each aspect of telephone service provides value to consumers, the primary benefit, a telephone conversation, is a result of a combination of the specific pieces.

Overall, about 93% of American households have telephone service. Within that, however, we find approximately 96% of households with income of over $20,000 have service, while as low as 80% of households with income below poverty have telephones. The two policy steps that will best promote universal service, consumer choice, and fairness are a means tested Lifeline rate and a local measured service option.

REFERENCES

1. Berryhill, E. B. and Reinking, R. D. "Optional Local Measured Telephone Service - Economic Efficiency with Customer Choice." Public Utilities Fortnightly, Vol. 113, No. 1, January 5, 1984. pp. 30-34.

2. Federal Communications Commission. "Telephone Subscribership in the U.S." January 9, 1987, pp. 1-3.

3. Idaho Public Utilites Commission Staff. "The Demand for Basic Residential Telephone Service in Idaho." 1986. pp. 1-15.

4. Oi, W. Y. "A Disneyland Dilemma: Two-part Tariffs for a Mickey Mouse Monopoly." Quarterly Journal of Economics, Vol. 85, February, 1971. pp. 79-96.

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[5] Surveys of multi-line and measured service consumers in Colorado and Idaho.

5. Perl, L. J. Residential Demand for Telephone Service 1983. n/e/r/a, White Plains, N.Y., December 16, 1983.

6. Reinking, R. D. "Lifeline Telephone Service Is a Reasonable Utility Classification." Public Utilities Fortnightly, Vol. 116, No. 2, July 25, 1985. pp. 32-37.

7. Smith, K. R., Zick, C. D., Hinton C. B. and Creer, R. N. "Public Opinion Survey of Utah Households on State Telecommunications Issues." University of Utah Research Center, June, 1986. pp. 1-117.

8. Taylor, Lester D. Telecommunications Demand: A Survey and Critique. Ballinger Publishing Co., Cambridge, Mass., 1980.

LOCAL MEASURED RESEARCH NEEDS/TELEPHONE SERVICE

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ABSTRACT

Local Measured Service is a relatively new form of charging for local telephone use and is widely promoted by the industry. After a decade, few consumers have elected it and much debate continues. Consumer research has not been utilized by regulators, yet many fundamental questions could be resolved through structured research processes.

What is Local Measured Service (LMS)?

Local Measured Service (LMS) is essentially a method of charging for every local call according to the same "usage" factors used in toll or long distance calling: The duration of the call, the local distance between the parties to the call, an amount for setting up the call (also called frequency), and the time of day. (see Appendix I)

LMS has been heavily promoted and lobbied by every major telephone company in the past decade with little successful market penetration by 1987. Its rationale has varied, but LMS is apparently a solution in search of a problem. It is marketed and packaged in a variety of ways to regulators and the public in order to somehow sell it. Sometimes it is introduced in limited areas or with fewer "usage" factors.

1985 was the target year for completing the successful nationwide implemtation set in the 1970's by the old Bell System. This was the year where the majority of residential customers and virtually all business customers were to have been signed up. Flat rate pricing and other options were to be rapidly disappearing offerings used by a minority of the public. While the goal was not reached and only 2%-4% of the residential customers have been added to the LMS rolls in the past decade, the debate nonetheless continues.

The carefully crafted LMS plans of the Bell System and General Telephone, in particular, have not been received well by regulators whenever the consuming public actively participated in rate cases and became aware of the issues and problems.

Today LMS is offered at least in part in a majority of states, but rarely do even 10% of the residential customers elect it in any state where other options expecially flat rates exist at reasonable cost. The industry goals haven't been met. The industry arguments, backed by impressive implementation manuals, public relations campaigns, and committed top managements have failed dramatically.

Notwithstanding the setbacks in most states through the end of 1983, the new Baby Bells often incorporated LMS again in their otherwise highly successful campaigns to raise local telephone rates in 1983-4. The new Bell companies managed to raise local rates and individual company profits sharply with arguments flatly predicting the most dire consequences from divestiture. Their financial abilities to provide telephone service were openly questioned loudly by themselves. Public Service Commissions were generous to a fault in raising rates, but LMS made little progress under this strategy to raise overall revenues.

Maryland may be a typical case where optional LMS was introduced by a close vote of its Public Service Commission. But in 1984, the public simply rejected the two optional forms of LMS in the marketplace. Three other options which continued to exist were favored by 99% of residential customers after a year of offering LMS. Wide public debate and state legislation that restricted the ability of the Public Service Commission to limit consumer choices in the future helped to focus public opposition to the company LMS plans.

Since 1983-4, general rate increases have dropped dramatically in the states. The lack of cases as vehicles to institute new rate structures such as LMS has reduced the progress of LMS. As flat rates are not rising, LMS is harder to promote to consumers where it is an option. This inactivity is a short term phenomenon.

Unresolved Research Issues

There are fundamental issues that should be resolved about LMS if states are to make decisions appropriate to the needs of citizens. Not all of these issues are given adequate attention in state debates. Some have been largely ignored.

Cost-based pricing. Nothing seems to attract regulatory fancy more than the claim that LMS is a step toward economic rationality in the form of cost-based pricing. This claim is largely unsupported simply because LMS is usage-based pricing. LMS is pricing according to the four usage factors and proponents have usually been careful to avoid claims in actual state rate cases that they have developed appropriate cost data to justify their rates.

Such cost justifications are not likely to occur in the near future. There is no generally agreed upon cost accounting system in place in the industry to help state regulators do their jobs. The appropriate costs to assign to the usage factors used in LMS systems - marginal costs - are in part declining due to technological advances. The marginal costs that should be the basis for pricing in these instances of declining costs fall below the average costs of the previously installed facilities. Prices set above marginal costs will become a powerful inducement for companies to market local calling - an incentive absent in the flat rate pricing environment most are in today. Cost - based pricing has been quite an issue in the regulated marketplace for a number of years in spite of the F.C.C.'s repeated failure in the past to develop a uniform telephone cost accounting system. The F.C.C. to date has not yet swerved from its passive resistance to developing the needed system. Regulators thus are faced with radically conflicting "special" studies of LMS costs in many rate cases. Consumer intervenors have had to almost completely revamp and rework company accounting reports because they do not reflect the marginal cost principles needed for evaluation of the costs and prices of each element of usage.

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While confusion reigns due to the FCC's accounting shortcomings and the special studies, there is really little hope that LMS rates can ever be satisfactorily cost-based. There are simply too many jointly used facilities and aspects of the telephone system to sort out and assign to particular elements of usage. Also, the regulatory system's archaic processes which are built around past costs and expenditures seem inherently unable to cope with the future (and thus unknown) costs. Even if future costs are clearly going to be lower, argument can be endless on just how much lower they will fall.

Economic efficiency. A landmark study[3] found that cost-based pricing in LMS is likely to be less economically efficient that flat rates. This is essentially true because the study found that demand varies greatly within time periods (time of day) and thus customers are paying too much or too little. Further, falling marginal costs of telephone capacity tend to lead to high charges for customers who use the newer installations. At best, so far arguments used by LMS proponents against the study have said economic efficiency as defined by the study is not the only way to evaluate LMS.[4]

Lifeline. LMS has been offered as a lifeline rate. It has been suggested that persons who need lower rates to be able to afford their telephone service could keep their rates lower with LMS. This is an appealing concept requiring some further examination.

Existing data suggest that local telephone usage is essentially unrelated to household income levels. Rather more important are factors such as the size of the household or the presence of teenagers in the household. These findings meet common sense standards. For example, it is not unlikely that more people with access to a phone will cause that phone to be used more.

LMS may in fact force people to give up telephone service. Those households with high usage and low income may not be able to control usage except by removing their telephones. Complex LMS rates make it difficult to control bills except by drastic and impractical measures such as banning the use of the phone for family members, baby sitters, or guests.

Lifeline through rate designs such as LMS may not be the best strategic approach in the first place. Deposit requirements or costs of installation may prove to be more significant causes of lost customers because they are high (often several times larger than the monthly bill) and all paid at once up front.

If telephone usage in economic terms is a case of price inelastic demand, there is a need to seek better lifelines for "needy" persons who use the phones substantially.

Marketing incentives. The fact that rates proposed for LMS exceed their probable marginal costs is clearly an inducement for telephone companies to seek ways of expanding usage to generate revenues. Objection to this rational business behavior is moot once rates are established that provide incentives to promote usage. There should be a more open admission and analysis by companies of their strategies to generate profits through this pricing approach.

There are many opportunities for the creative telephone marketing department to boost usage. New York telephone, for example, has spent much advertising money aimed at local customers with measured services in the New York city area. The ads suggest making impulse calls to friends among other appeals used in recent years.

Regulatory lag. The long term growth of telephone usage offers revenue growth through LMS without the need for regulatory approval. This should have the desirable effect of reducing the number of rate cases. The industry and its regulators fail to fully evaluate impacts related to regulatory lag because the very name of the issue itself implies that regulators aren't efficient - they lag in providing rate relief.

Regulatory "lag" could easily become regulatory "lead" whereby companies that have successfully stimulated usage may enjoy excessive revenues at the expense of their customers. Fewer rate cases may allow time for higher quality of regulation, but it will more likely mean less regulatory oversight of the industry for lack of opportunities through rate cases to review the performance of the companies. Regulators have characteristically acted as judicial bodies in rate cases rather than seizing them as windows of opportunities to raise additional issues about company operations.

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[3] Rolla Edward Park, Bridger M. Mitchell, Optimal Peak-Load Pricing For Local Telephone Calls. Santa Monica, California: Rand Corporation, June, 1986. The authors' prestige due their other telephone research is a major element in the impact of this study, financed in part by the telephone industry and the National Science Foundation.

[4] Communications Week, August 11, 1986, p.8.

LMS arithmetic. Complex rates on each and every local call do more than increase the customer's difficulties in controlling monthly bills. They are a means of rate increase obfuscation. The individual consumers are all affected in different ways by the myriad of rate changes necessary in LMS rate systems.

One company, United, confessed to a strategy of multiplication effects in its future designing of rates. This simply means that small increases in single elements of rates have multiplier effects. A simple example would be to raise the rate for a particular distance and for, say, a certain time of day by 10% each. The actual impact of that rate increase is 21% (110% times 110%) for a call. With a subtle use of mathematics, the effect would be to produce many millions of dollars while unsuspecting customers only thought the rate increase was about 10%- a rate hike more pernicious than subtle.

Both regulators and companies in some states would appreciate a less aroused public participation in rate cases. Complex LMS rate designs only add another kind of public confusion and thus blunt the opposition that would be created if a rate increase were more easily understood.

Another choice (GTE says *no*). This patently silly argument is often relied upon to advance LMS. Based on some of the hazards inherent in LMS systems, the real question becomes one of analyzing carefully just what another choice offers to some customers. There is logically no limit to the number of choices that could be offered in addition to LMS, but its proponents have no intention of guaranteeing the existence of reasonable rates for any other service besides LMS.

The universal goal of large telephone companies is that LMS become the predominant form (General Telephone's mandatory system would offer no other options) of residential service. Such is the industry's meaning of choice.

Value of customers to each other. There is truth in the industry dogma of "value of service" in that the value of service increases by the addition of more customers to the telephone network. While not subject to standardized economic measures, this value is apparent. The Social Security Administration would benefit by being able to communicate with recipients. Telemarketing counts on customers with home telephone service. The pricing of local service usage may restrict calling and possibly cause some customers to leave the telephone network altogether.

Future Directions

The issues that are unresolved and in some cases not discussed are partly responsible for the indecisive resolution of the industry's LMS proposals in nearly all states. While the best forecast is that massive confusion will reign, the industry has to recognize that there are only a few areas in which LMS has even technically reached the goal of the predominant form of residential service. LMS success appears to require either eliminating flat rate options altogether or raising the flat rate to prohibitive heights. In those states where it has been introduced as an option by regulators, it has been, by and large, characterized by overwhelming rejection of LMS by individual households. The decade of LMS implementation desired by the Bell System didn't happen by 1985.

Traditional marketing organizations operating in the competitive marketplace have learned the importance of knowing and understanding consumer behavior. These lessons have been expensive and slow in coming. The providers of local telephone service have found their new proposal for LMS rejected for lack of consumer research as well.

There are several possible myths about consumers which the industry should undertake to evaluate. LMS may be revised or rejected by studies of these beliefs about consumer behavior. On the other hand, LMS may be more readily accepted if the studies reveal more truths about consumers' use of the telephone that substantiates the market's need for such an option.

The possible behavioral myths concerning telephone usage

1. Local telephone users will choose the service that costs least in the long run.
2. Local telephone users will not change the type and amount of calling they do in response to the imposition of usage pricing.
3. Local telephone users can forecast future usage.
4. Local telephone users can compare future costs of service options.
5. Local telephone users with low incomes can reduce calling usage without any real effects on their lifestyles.
6. If one service is considerably cheaper, consumers will choose it to save money and the more expensive rate will become even more expensive in order to restore the company's revenues.
7. When reducing usage, consumers will eliminate "nonessential" usage only.
8. High usage consumers faced with rising costs of their current service options will change options rather than drop their service.
9. All of the above apply to all demographic and other segments.

These statements are mere assertions. Research may neither fully prove nor disprove these seemingly simple statements about local residential telephone customers, but it can provide researchers better probabilities of their likelihood.

Consumer Research Concepts For Telephone Companies

There are six basic steps in the consumer research process. These are problem definition; design; sample size; data collection; analyses; and formulating conclusions and preparing a report.

Problem definition. The telephone companies have presented a solution (LMS) in search of a problem. Furthermore, the problem definition has been complicated by insistence on usage rates rather than defining the problem(s) in terms of consumer behavior factors. At present, the break-up of the telephone system has caused not only uncertainty for the end users but also for the telephone companies and regulators. Why promote services (telemarketing, LMS, etc.) when there is no evidence, at present, to show that such services are even wanted?

In 1987 the industry has not yet arrived at any consensus as to the problems it wants to pursue with LMS. There is no logical way to proceed with further research steps unless there is an agreement on problems. If the problem, for example, is that low income consumers may have to give up telephone service, then LMS designs can be tested as possible solutions. Other solutions unrelated to LMS may prove more viable.

The importance of problem definition cannot be overemphasized. The entire idea of problem definition is obviated if large segments of the population cannot afford to rent or buy a telephone. And if these segments could be identified, it may be the rate structures that are critical or the behaviors of the various segments that are crucial in determining LMS usage.

Design. Once the problem(s) has been stated, then a method by which one can measure and test must be instituted. There are many types of research designs. They range from exploratory to experimental design. Each type has its advantages and disadvantages that must be weighed in light of problem definition, cost and time available to complete the study.

Exploratory research should be the initial step in this process. The problem and/or problems have not been adequately defined. Exploratory research would provide the foundation for determining whether the problem(s) are rate related, behavior related or some combination. Only then can one move on to more sophisticated designs. However, no matter which design is chosen, there are basically four methods by which a design can be carried out: laboratory experiment, telephone, mail and personal interview (including focus interviews).

Sample size. Sample size is actually determined in two stages. Stage one is determining who and what type of telephone users to survey. Stage two is determining sample size. Sample size can be reduced and still achieve significance if a probability sample is utilized.

Data collection. Data collection is highly dependent on the type of research design. For example, if mail is the chosen survey method, studies have shown, that on the average, only 25% are returned. Additionally, the researcher must set a deadline (e.g. six weeks) for the return of the mail questionnaires. Experimental design comes closest to the concept of cause and effect. However, many experiments suffer from what is termed, 'the artificiality of the laboratory.'

Recent studies have shown that the refusal rate for telephone surveys is 35%. There are no reliable studies on the refusal rate of personal interviews. It is however, considered to be a highly reliable method of collecting data. It should be remembered that personal interviews are expensive and time consuming.

Analyses. Analysis, to a great extent, is limited to the type of questions asked. The more open ended the questions, the less statistical analyses that can be performed. A concomitant problem is whether the closed-end questions utilize parametric data or non-parametric data. Each utilizes different forms of statistical tests and each has tests that vary in vigor.

Conclusions and report writing. One of the major functions of research is prediction. This ability to extrapolate from the results of the study is limited by the breath of the study; sample size and questions asked. For example, if a consumer survey of telephone customers is conducted only in Tennessee, the researcher cannot conclude that results are applicable to the United States in general. LMS studies in New York City may not be relevant in Louisiana or Colorado.

The report must stipulate all steps taken in the research, as well as a copy of the survey and results to allow future researchers to replicate the study.

Only then will telephone companies, regulators, and the general public be able to accurately assess the needs or the wants of consumers.

Political Forecast to - 1990

The research agenda is long term. Rather than rely on the belief that the regulatory agencies will press the companies to do what must be done to resolve the LMS controversy in the 20th century, short term forecasts are still needed.

The circumstances favor the lingering consideration of LMS proposals in spite of the fundamental unknowns of their merits for the public. The following suggest prolonged indecisive actions in the states in the next five years:

1. Few regulatory bodies have been able to receive enough testimony and other information to enable them to see below the surface appeal and intriguing possibilities of LMS. This infatuation will continue to favor partial acceptance of LMS, often on an alleged

experimental basis, to see how it is accepted.

2. LMS can still be offered as the answer to lifeline if for no other reason than industry's assertions cannot be disproven until they actually fail in field tests.

3. The issues of greatest concern are not yet discussed in serious public forums. What is usually discussed is the industry's repeated pleas and assertions for LMS which journalists often come to believe as the consensus wisdom. Unfortunately, LMS is often given credibility when it is viewed as news because calm, assertive, industry professionals and their experts, offering plausible rationales, have run into opposition from emotional consumers predicting dire consequences from something new and complex. The consumers may not be convincing if they rely only on their passion to pursuade others.

4. Many regulators are largely unwilling to view consumer behavior except in simplistic economic terms. The regulatory mechanism only to a limited degree permits consideration of things such as consumers perceptions of risk and uncertainty or impacts of rates on lifestyles.

5. The industry is still searching for ways to implement LMS. It appears willing to move more slowly than orginally planned. It is only too willing to try new arguments for its LMS programs (conceived before divistiture) as new problems arise in the post-divestiture world.

6. The Bell companies serving over 80% of the U.S. local exchange market are victims of their own historic allegiance to the intense 15 year effort of ATT to develop and promote LMS. It is a fine living example of the inertia of the corporate culture.

7. There is no real program or effort by companies or regulators to learn anything from the introductory phases of experience with LMS in the many states now trying it. Regulators essentially have ignored this opportunity. Companies have not even offered to study the real market experience, in any jurisdiction, in a manner consistent with even the most elementary principles of objective research.

8. The current climate in which some states are dismantling their regulatory apparatus in the name of deregulation may cause problems with LMS. No state has so far surrendered its right to approve new rate options. LMS is a case of potential abuse by telephone companies if they are given the privilege of adjusting the prices of various usage elements without regulatory review.

Epilogue

While the evidence on behalf of LMS is scant indeed, the public may yet benefit from some form or limited offering on LMS targeted to customers who have some demonstrated need for it.

Creative pricing is called for in today's local exchange market. There may be some residential customers who could be rightfully charged a reasonable price for their usage if it could be shown there was a public benefit.

The industry often complains of some instances of residential customers who tie up phone lines with computers or who are running businesses from their homes. An LMS system designed to exempt legitmate home residential usage, but targeted to capture usage revenues from persons who use their phones for (e.g. 30 hours or 600 calls per month would perhaps make sense.

APPENDIX 1

DETAILED DEFINITIONS OF FACTORS USED TO CALCULATE LMS RATES

1. Duration of the call. This is the additional charge per minute (or other time period) of a local phone call after the (higher) first minute charge. It is charged for fractions of minutes not fully used.

2. Distance. These are the additional charges for geographic distances further than the closest calls. It is measured by distances between telephone company switches or locations and not by the distances between two callers' business or residential locations.

3. Frequency (set up). This is the charge for setting up or initiating a call. The amount can be calculated by subtracting the additional minute (or duration) charge from the first minute charge. The first minute charge is a composite of frequency and duration elements. It is charged for fractions of the first minute even if the minute isn't used up.

4. Time-of-day. These are usually stated as discounts from the highest rates such as those often charged for weekday business hours.

5. Other fees or charges may include a minimum monthly fee whether or not any calls were made. Another practice is to offer an allowance such as $8.00 worth of calls for $6.00 that would be added directly to the minimum monthly fee. In effect $2.00 is saved by persons who make $8.00 worth of calls or more and the $6.00 is lost if no calls are made. The variations on allowances and fees are many.

GENERIC ADVERTISING: AN OVERVIEW

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ABSTRACT

The paper provides a brief descriptive history of generic advertising. It points to differences between generic and branded advertising and raises some questions as to the effectiveness of generic promotions.

INTRODUCTION

Many foods products are sold in an unbranded and unprocessed form. Milk products, pork, beef, eggs, fresh fruit, and vegetables are examples. Primary producers of these commodities generally receive a relatively large proportion of the final sales price. This is true because in these markets processors have little market power, perform little processing and spend very little on branded promotion. The profits of primary producers of these commodities are sensitive to changes in tastes due to the inelastic nature of the demand curve. Consequently, they have watched with apprehension as the processors of foods with which their products compete have spent ever increasing funds on branded advertising. For instance, there is a feeling that successful campaigns for brand name poultry products has been successful in luring customers away from both beef and pork.

The introduction of vertical integration, or oligopolistic firms into any of the above mentioned markets would result in increased advertising, however, producers are understandably reluctant to encourage market developments that reduce the share of the final sales price they receive. Any increase in industry sales would be outweighed by a reduction in producers' share of the final sale. It is not in the interest of the atomistic firms in either the producing or processing ends of the industry to advertise. Large marketing costs and the presence of a free rider problem makes the costs prohibitively expensive. The solution to this dilemma would seem to be for some collective action to promote the commodity in a generic manner. In order to overcome the free rider problem some form of legislative action is required for success. Three revenue generating approaches have evolved, they are described below.

In the voluntary approach the producers are asked to donate a specific monetary amount per unit sold. In order to encourage a high level of funding those "voluntary" donations are often collected on all items sold and then returned to dissenting producers on written request. It is usually not in the interest of small producers to take the time to request a refund, while very large producers often support the campaigns to avoid recriminations. In theory, the refund process is confidential, in practice, producer members of the boards are aware when large operations request refunds. Agricultural cooperatives demonstrate a second approach to generating funds. Members are required to fund these activities, the alternative being to leave the cooperative. This second form of advertising is closer, in reality, to branded advertising. Sunkist and Ocean Spray are cooperatively funded promotions that have become name brands in the minds of many consumers. In these cases the producer group often has a certain degree of supply control. The third method used to generate funds is mandatory checkoffs. These programs often begin as voluntary schemes. They become mandatory when two-thirds of the producers elect to continue them after an initial test period.

HISTORY OF GENERIC ADVERTISING

The history of these promotional activities dates back to 1880 when state legislatures began funding generic producer campaigns [3]. States such as Florida realized that the entire state would benefit from an increased consumption of citrus juice. In 1907 Sunkist producers began the generic promotion of orange juice. The funding for this campaign grew from $7 thousand in 1907 to $166 thousand in 1910 and was apparently very successful [10]. By 1915 several state affiliated national organizations emerged. The activity of these groups was hampered by a lack of appropriations. In 1935 the Florida legislature solved the funding problem with an excise tax on oranges, grapefruit and tangerines. This concept gradually spread to other states with large market shares in particular commodities. By 1961, 50 state checkoff programs were in existence. This increased to 266 by 1979 [8].

Congress passed the first national checkoff legislation in 1937 with the Agricultural Marketing Agreement Act. This allowed national producer groups to petition the Secretary of Agriculture for permission to hold a referendum to measure the level of producer support. The Agricultural Marketing Service of the USDA which oversees this process requires a two-thirds approval rating if all votes are weighted equally, or an absolute majority if votes are weighted by the level of production. In theory, the programs must refund all costs incurred by the federal government in administrating the program as well as make confidential refunds when requested. The AMS also requires that the funds be administered by appointed representatives of the industry and of the public at large, and that funds be made available for the evaluation of the campaigns.

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Successful applications were made by producers of wool in 1954, of cotton in 1966, of potatoes in 1971, of eggs in 1974 and of wheat in 1977. Participation among these producers ranged from 91% for potatoes to 64% for eggs; no refunds were authorized in the 1954 Wool Act. In 1976, beef producers rejected a promotion program. It is interesting to note that 1976 was an excellent year for beef production.

In 1983 Congress passed the Dairy and Tobacco Adjustment Act. This program dwarfed all previously existing programs, with collections equal to $110 million in 1985. No refunds are authorized in this act. Almost all of this money has been used in national advertising and promotion, with 25%, 41%, 10% and 24% being devoted to fluid milk, cheese, butter, and calcium promotion respectively. In 1985 national checkoffs were approved for both beef and pork. As of March 1987 these groups were providing refunds on request. Both groups have scheduled follow-up elections to determine whether the refunds should be continued. As of 1985, producer groups will spend a total to $530 million on all of these promotions combined.

RESEARCH ON THE EFFECTIVENESS OF GENERIC ADVERTISING

Academic research on the effectiveness of these programs dates to 1961 when Nerlove and Waugh published a study of the promotional activities relating to orange juice. This paper has become a classic and set high standards for all that was to follow. In the early 1960s a group of USDA researchers [1] ran a controlled experiment to evaluate the generic promotion of fluid milk [2]. The design used was similar to that used by agronomists to test fertilizer response i.e., similar market areas received different levels of advertising. They concluded that advertising did increase sales. Research on the effectiveness of promotional campaigns for fresh citrus was undertaken in the mid-Sixties by the faculty at the University of Florida, where they used econometric techniques to measure the effect of the citrus campaign. They demonstrated that the effect of advertising carried over after the campaign was finished [7]. In the early Seventies, these techniques were applied to the New York milk promotion program. This work was based in Cornell University and demonstrated a decreasing marginal return to advertising expenditure levels [4] a complimentarity between branded and nonbrand advertisements [5] and the importance of seasonality in planning campaigns [6].

ISSUES IN GENERIC ADVERTISING

Producer groups are continuously reminded of the benefits of branded advertising. It currently accounts for 2.5% of the GNP and is growing rapidly [9]. The success of branded advertising seems to indicate that all branded advertising campaigns have the potential to succeed, given sufficient time, funds, and marketing skill. Consequently, issues raised about the effectiveness of generic advertising tend to concentrate on areas where differences exist between generic and branded advertising. Surprisingly, these differences are substantial. It is argued below that these differences make it much more unlikely that generic advertising will achieve its desired objectives than is the case for branded advertising.

Large variations in the type of legislation and funding, as well as in the type of campaign and information conveyed, make it difficult to make general statements about generic advertising. Hence, the following discussion relates only to the specific subgroup of these ads which conveys no new information, either about health or prices, and which do not attempt to establish a brand name.

HOW IS GENERIC ADVERTISING DIFFERENT?

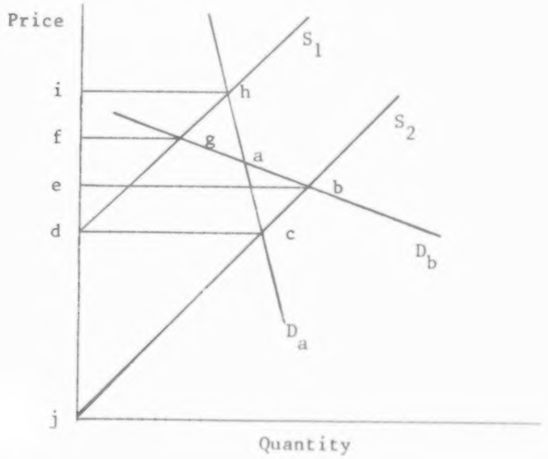
The differences between generic and branded advertisements are: (i) Generic programs are based on federal regulation, namely the 1939 Act mentioned earlier. This centralized legislation makes it necessary to evaluate the program at a centralized level. Whereas it is suitable for a company such as Coca-Cola to evaluate campaigns only in regards to its own sales, the government should evaluate the generic campaigns as a group -- so long as it used its legislative power to enforce compliance. (ii) The market for many of these foodstuffs is saturated. Americans limit the total quantity of food they eat as well as the relative proportion of animal products. (iii) Producer groups can generally exert little control over supply, this is true for the short run where individual producers must sell whatever they produce at whatever the market will bear, as well as in the long run where producers can respond to the higher prices these ads may produce. (iv) There is a degree of uncertainty regarding the quantity of these products that will be supplied at any future date. Economists have never produced a model that properly explains how an industry which is comprised of many small firms, will react to economic conditions. The supply curve is not a line but rather a band within which the vagaries of weather and different expectation formations can produce different reactions to the same set of incentives. (v) The framework within which these programs are evaluated is unique. The marketing arms of corporation are generally controlled by executives who can devote time and skill to ensuring that shareholders get a return on advertising expenditures. The economists employed to spend checkoff funds have little incentive to produce results demonstrating that these funds have been used ineffectively. This is especially true during the initial testing period when producers can vote to discontinue funding. (vi) The funds used to purchase media time have a very high opportunity cost. The process of collecting funds, holding elections and enforcing rules is expensive. Returns on money collected in this manner, often against the wishes of individual subscribers, should be compared with other alternatives upon which funds could be expended. Such alternatives include lobbying activities, new product and foreign market development, health related research and possibly branded advertising. A half billion dollars invested in any of these activities would in all probability produce a rate of return that is greater than the risk free interest rate normally used as a measure of the opportunity cost.

THE EVALUATION OF GENERIC ADVERTISING

The unique characteristics of generic advertising mentioned above have several implications for the manner in which they should be evaluated. For example, it can be argued that market imperfections have placed producers of beef and pork at a disadvantage in that branded advertising of poultry may well reduce red meat demand. Government involvement in red meat promotions could therefore be seen as correcting these imperfections. If this is true then a measure of the success of the campaigns should be their impact on the share of both beef and pork, relative to poultry. Results which show that advertisements increase the budgetary share allocated to beef are irrelevant if this increase is at the expense of other generically advertised commodities such as pork.

Proponents of these campaigns have argued that even though they may not be successful at shifting out the demand for a specific commodity they are useful because they decrease the elasticity of demand. This is one of the primary aims of branded advertisements. A company such as Kellogg can build consumer loyalty to the extent that sales will continue even where a substantial premium is charged over competing brands. This argument is not true for commodities with an uncertain and uncontrollable supply. This can be shown using standard welfare analysis. In Figure 1, the lines S_1 and S_2 reflect two equally likely supply curves. The line D_b is the demand curve before advertising while the line D_a is the demand curve after advertising. The campaign has rotated the demand curve so that at point a the new demand curve is more inelastic. One measure of producer welfare in this situation is the area above the supply curve and below the equilibrium price. For example, with supply curve S_2 the producer surplus before the promotion is the area ebj. The producer surplus after promotion is the area dcj. For supply curve S_1 the producer surplus increases from fgd to ihd. We can measure the effect of advertising on producer welfare, it is the area ihfg - ebcd. Because the demand curve has been rotated around a point equidistant from S_1 and S_2 the distance cb must equal the distance gh. This implies that the distances if and ed are equal (S_1 is parallel to S_2). So long as the demand curve is negatively sloped the distance eb will be greater than ih hence ebcd is greater than ihfg, i.e., advertising reduces producer welfare in this example.

FIGURE 1.



The intuition behind this result is that while an inelastic demand curve is preferable when supply is unexpectedly less than expected, it makes producers worse off when supply is greater than expected. Producers of branded commodities have control over output and are unlikely to find themselves in a position of unexpected excess supply.

A third implication of points (i) to (vi) is that it is not in anybody's interest to produce results detrimental to the campaigns. Checkoff monies are used to create full-time positions which depend on a continuance of the checkoffs. These employees have the skills to evaluate the campaigns but should not be expected to be overly critical. The same is true for the media companies who buy air time. Producers who fund these promotions can judge them only on the quality and quantity of the ads they themselves are exposed to. To them advertising is something that is done by every successful business.[2]

The above discussion would seem to indicate an opening for academic research in this area. This has been and continues to be the case as can be seen from the literature cited earlier. However there is an in-built bias in favor of research which shows successful promotions. Reviewers for academic journals expect to see innovative methodology as well as new empirical results. Researchers who replicate the methodologies of others on new data reduce their chances of acceptance. Hence there is a mutual dependency between results and the methodology used. Research that shows a significant negative impact of generic advertising would be rejected on the grounds of poor methodology. It is difficult to make conclusions or publish articles with results which are not significant, hence work which shows a significant positive effect is favored. Forker

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[2] This raises the interesting question as to who the target audience is. Pork adds screened in Iowa are likely to result in more additional funding than similar adds screened in Manhattan.

[2, p. 48] supplies two interesting quotes in this regard, both are attributed to early researchers. "Both articles were ... optimistic about the probability of positive results if the right questions were asked and the right methods used in the analysis." "Statisticians and economists sometimes fail to discover basic facts either because their statistics are not accurate or because they do not use the most appropriate methods."

WHO WINS AND WHO LOSES

Checkoffs are exactly like an ad valorem tax, they act to shift the supply curve up and to the left. With an inelastic demand most of the burden of such a tax will eventually be passed on to consumers. It seems likely that these promotions will continue indefinitely. This is true because the large flow of funds has created a powerful interest group. In addition the ads, should they be successful, will raise producer prices, which will encourage additional production that will only find a market if the promotions are continued. Should producers vote to overturn those checkoffs this additional production will lower prices once the influence of the ads (if any) begins to wear off. The inelastic nature of the demand curve will ensure that total revenues after successful campaigns have been halted will be lower than those which existed prior to the campaign.

To summarize, producers gain if the promotion increases the share of generically promoted foods at the expense of branded items, if this causes a price increase, if this price increase is passed on to producers, if producers don't over react to this increase by producing more, and, if most of the costs of the promotion are bourne by consumers.

Consumers gain if the quality of TV and radio programs increases to reflect the large sums being spend on these programs, if producers bear the costs, and if producers eventually over respond, thereby creating excess supply.

SUMMARY

Generic advertising is substantially different to branded advertising. The methods used to finance, operate and monitor generic campaigns as well as the unique market environment within which they occur make it less unlikely that they will be as successful as branded advertising. It is likely that these campaigns will continue however, as it is not in the interests of any particular group to produce results which portray them in a negative light.

REFERENCES

1. Clement, W.E., Henderson, Peter L., and Eley, Cleveland P. "The Effect of Different Levels of Promotion Expenditure on Sales of Fluid Milk." Washington DC: U.S. Department of Agriculture ERS-259, 1965.

2. Forker, Olan D. "Chronology of Agricultural Economics Research Directed Toward Evaluating Promotion Programs." Research On Effectiveness of Agricultural Commodity Promotion - Proceedings from Seminar in Arlington, VA, April 9-10, 1985. pp. 47-56.

3. Frank, Garry L. "Generic Agricultural Promotion and Advertising: An Overview." Research On Effectiveness of Agricultural Commodity Promotion - Proceedings from Seminar in Arlington, VA, April 9-10, 1985. pp. 1-6.

4. Kinnucan, H.W. "Performance of Shiller Lag Estimators: Some Additional Evidence." Dept. Agr. Econ. Research 81-8, Cornell University, June 1981.

5. Kinnucan, Henry and Fearon, Deborah. "Econometric Measurement of the Sales Response to Generic and Brand Advertising of Cheese." Dept. of Agr. Econ. Staff Paper 84-21, Cornell University, Aug. 1984.

6. Kinnucan, H. and Forker, O. D. "Consumer Response to Milk Advertising." American Journal of Ag. Econ. 68(3):562-571.

7. Lee, Jonq-Ying. "Florida Department of Citrus Advertising Research Program." Advertising and the Food System, ed. J.M. Conner and R.W. Ward, pp. 179-196. North Central Regional Research Publication 287. Madison WI: University of Wisconsin, September, 1983.

8. Manley, William T. and Kenney, Mary C. "Domestic Commodity Promotion Programs: Information Needs." Research On Effectiveness of Agricultural Commodity Promotion - Proceedings from Seminar in Arlington, VA, April 9-10, 1985. pp. 7-16.

9. McEwen, William J. "Awareness, Recall and Advertising Effectiveness." Research On Effectiveness of Agricultural Commodity Promotion - Proceedings from Seminar in Arlington, VA, April 9-10, 1985. pp. 150-163.

10. Nerlove, M. and Waugh, F. "Advertising Without Supply Control: Some Implications of a Study of the Advertising of Oranges." J. Farm Econ. 43:813-837.

EVALUATING FARM COMMODITY PROMOTION PROGRAMS: MODELS AND ISSUES

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ABSTRACT

In 1985 national legislation was enacted authorizing exise taxes to be levied on farm output of beef, pork, and watermelons for the purpose of conducting producer-funded promotion programs for these commodities. Other agricultural commodities with promotion checkoffs include milk, eggs, citrus, and catfish. This paper explores economic and public policy implications of farm commodity promotion programs and identifies gaps in knowledge about the efficacy of these programs.

The purpose of this paper is to discuss some commonly raised issues associated with efforts to evaluate farm commodity promotion programs. As defined here, farm commodity promotion programs are producer-financed efforts to increase the demand for the commodity in question. Approaches to demand enhancement usually fall into three categories: (1) research into new uses for the raw agricultural commodity, (2) consumer education about the nutritional and other desirable attributes of the commodity, and (3) media advertising and promotion. An excise tax levied on farm output is the usual funding mechanism for these programs.

Because the majority of such funds is usually invested in media advertising and promotion, the focus of this paper is on issues relating to this component of the programs. Moreover, because my own experience with these programs is limited to evaluating their effects on producer returns, the paper will have a bias in favor of examining issues from the producer, rather than consumer, viewpoint. However, as a compensating factor, the paper does rely to a considerable extent on existing literature, including papers from a symposium on the on the topic presented to the 1986 annual meetings of the Southern Agricultural Economics Association.[2]

A convenient and useful way of thinking about issues relating to commodity advertising is to consider whether the issue in question relates to the demand or to the supply side of the market. Accordingly, in discussing the issues they will be organized into two broad categories: issues relating to how advertising and promotion affect market demand and issues relating to supply response. A further classification scheme imposed on the paper is the origin of the issue, that is, whether it arises from concerns expressed by individuals in the private versus public sector. In general, "public sector" individuals are defined to include professionals in academia and government and the "private sector" as individuals working for commodity boards, advertising agencies, or private consulting companies. However, it must be recognized that this distinction is not always apt because overlap does exist in the issues raised by the various interest groups. Nonetheless, separating the issues in this way does appear to be useful in that it brings the subject into sharper focus.

The paper proceeds by first discussing issues relative to demand side effects. A symmetrical discussion is then presented relative to supply side effects. Some concluding remarks close the paper.

DEMAND SIDE EFFECTS

Advertising and promotion are pursued by farm commodity groups primarily as a means of increasing the demand for the advertised commodity. The important research issues associated with this attempt by farmers to manipulate the demand curve for basic agricultural commodities differ depending on the viewpoint of the affected group.

Private Sector Views

From the standpoint of promotion boards and the producer groups they represent, the most pressing issue is whether advertising has been successful in terms of raising the income of those paying for the promotion effort. In economic terms, this issue boils down to determining whether the advertising and promotion program has in fact shifted to the right the demand curve of the advertised commodity and, if it has, whether the magnitude of the shift is large enough to compensate for the cost of the program. Without hard information on the cost effectiveness of producer funded promotion schemes, boards and other groups who have a vested interest in the programs find it difficult to maintain farm level support for the effort.

Other issues raised by those in the private sector are really just corollaries of the main issue, "Does promotion pay?" These issues relate primarily to fund allocation: where to spend the money, when to spend the money, how best to allocate the budget among alternative product forms, to various media and so forth. What boards want to know is how to get the "biggest bang for the buck" from the limited budget at their disposal. In other words, what policy or combination of policies will result in the greatest shift in aggregate demand of the advertised commodity?

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[1] Assistant Professor, Department of Agricultural Economics and Rural Sociology. The author wishes to thank John Adrian, Patricia Duffy and Joe Molnar for their helpful comments on an earlier draft of the manuscript. Responsibility for the final content and views expressed rests strictly with the author, however.

[2] Speakers preparing papers for the SAEA symposium include Ron Ward of the University of Florida, Bernie Lester of the Florida Department of Citrus, Greg Rathjen of Darcy, Masius, Benton and Bowles (an advertising agency), and Bill Manley of the Agricultural Marketing Service, USDA. Request for copies of these papers can be directed to the authors.

Finally, private sector participants want questions answered as to the appropriate level of investment in advertising and promotion. How much should be spent in total on advertising and promotion to achieve maximum efficiencies from the investment. Do economies of size exist in advertising and is the nature of market response such that a minimum level of expenditure is needed for efficiency? This information is important in determining the appropriate checkoff level to impose on producers and to avoid wastefully high (or low) levels of expenditures.

Public Sector Views

The government is interested in a different set of issues with respect to attempts by farm groups to influence commodity demand via advertising and promotion. Public policy makers want to know what affect these advertising programs have on the demand for nonadvertised agricultural commodities. Does providing beef producers the right to tax themselves for the purpose of launching a collective advertising effort come at the expense of pork and chicken producers? If dairy farmers begin an intensive and successful campaign of butter advertising, how will soybean producers and suppliers of oil to the margarine industry fare? This is a real concern in situations where cross-price elasticities of the commodities in question are relatively large.

Another concern of government is the impact of advertising on the aggregate demand elasticity of the advertised commodity. Advertising and promotion is often directed at differentiating a pro-3duct from its competitors. To the extent that consumer perceptions about the desirability of the advertised product are enhanced, market sensitivities to changes in price may diminish. If market demand becomes less price elastic, or more inelastic, as a result of promotion programs, the inherent instability of agriculture will be made worse.[3] If this happens, federally sanctioned promotion programs would in effect operate at cross purposes with other government agricultural policies.

Essentially, public sector concerns about advertising and promotion differ from private sector concerns in that the latter group is concerned primarily with the magnitude of the shift in the demand curve, while the former group is concerned with how advertising has affected the shape or slope of the curve. To date, most research on agricultural commodity programs has focused on demand shift issues; very little, if any, research has been conducted to determine whether the shape of these curves have changed. Because cross effects are ordinarily smaller than the direct effects, they are more difficult to measure. Nevertheless, future research will need to focus more on shape vis-a-vis shift issues if the information needs of public policy makers charged with overseeing commodity promotion programs are to be met.

SUPPLY SIDE EFFECTS

Agricultural commodity promotion, by shifting to the right the demand curve for the advertised product, can evoke a supply response as price adjusts to a new equilibrium. Depending on the nature of the adjustment process and cost conditions of the industry, supply response can dilute, and even eliminate, the short term benefits producers might have received from the advertising effort. Specific issues deemed important relative to supply response differ depending on the orientation of the interest group.

Private Sector Views

Because the eventual impact of promotion on the supply of the advertised commodity is a more subtle and longrun notion, producer boards, advertising agencies, and others in the private sector are less vocal in their concerns over this issue. In the short run, an advertising-induced increase in farm level demand of sufficient magnitude will ordinarily result in economic profits to existing producers of the advertised commodity. In the long run, however, entry of new firms into the industry causes supply to increase until economic profits are eliminated, thereby removing the incentive for further expansion. The upshot is that advertising and promotion can place producers of the advertised commodity on a treadmill in which profits from the promotion investment are transitory--lasting only as long as it takes for supply to "catch up" with demand. Although producers and the boards who represent them have an inkling that advertising may simply result in expanded output with little long term benefits in terms of improved profitability, this aspect of farm-funded promotion has not been well articulated by either boards or economists who attempt to assist them in the formation of promotion policy. It represents an area that warrants a higher level of research activity. The theoretical models developed by Nerlove and Waugh, and Clement and the empirical work of Thompson and Eiler are good starting points for such an endeavor.

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[3] Although most advertising, especially the branded variety, might be expected to make demand more price inelastic, there are instances in which the opposite effect may occur. As explained by Waugh, advertising that informs consumers of price changes will make demand more price elastic if it encourages consumer to increase purchases when foods are plentiful and prices drop. An example of such a program cited by Waugh is the Plentiful Foods program conducted by the U.S. Department of Agriculture. However, commodity advertising in general does not contain price information; hence, the general concern that such advertising will accentuate the inherent instability of agriculture via reduced price elasticities (thereby making agriculture more dependent on government) appears valid. This hypothesis represents an important research issue to be addressed in future studies.

A different type of supply response affecting private sector decision making has to do with expanding shares of the domestic market enjoyed by some importing countries. This point is mentioned by Gunter who expresses concern over the encroachment of Brazil into the U.S. orange juice market. Because imports represent a growing share of the U.S. orange juice market, the potential exists for advertising-induced increases in demand for orange juice to be met primarily by increased imports--with no benefits to the domestic producers funding the effort. This represents a new twist on the "free rider" problem associated with voluntary promotion programs.

Public Sector Views

Concerns over supply response to commodity promotion from government and academic viewpoints relate to two issues: potential for industry overexpansion and excess capacity problems.

The overexpansion issue and consequent adjustment costs that may be incurred as a result of promotion are perhaps best articulated by USDA economist Wendell Clement some 23 years ago. Clement's basic argument was that "Under certain conditions, shifting the demand curve to the right might induce a state of disequilibrium in the industry with severe maladjustments in the rate of output and prices" [3, p. 185].

Maladjustments are likely in agriculture because of the inability of producers to respond immediately to changes in output price. For example, in the case of orchards, it may take five or 10 years before new production can be brought to market in response to a price increase. Because of these production lags and also because of lags associated with the formation of future price expectations on the part of the producer, advertising may cause the farm level price to rise too sharply in the short run and remain well above the longrun equilibrium level for an extended period of time. The resulting extended period of profitability elicits a level of supply response too great to yield a profitable return to all industry participants as supply fully adjusts. The extra supply forces price below the level consistent with longrun competitive equilibrium and the industry is forced to contract in order to reestablish price at a sustainable level. Of course the adjustment process associated with industry contraction is painful and costly and therein lies the concern of public policy makers should promotion create the scenario just described.

The effect of promotion on the production capacity of certain sectors of the agricultural economy is another concern. Largely because of government intervention in agriculture in the U.S., many sectors of the agricultural economy have more resources than can be justified on grounds of economic efficiency. Farm funded promotion programs may exacerbate the excess capacity problem by encouraging additional resources to enter already overcrowded industries. An apparent case in point is the dairy industry in which the government currently purchases about 10 percent of production. Under classified pricing, it makes economic sense for dairymen to devote most, if not all, advertising funds to the promotion of fluid milk because doing so provides the highest returns when surpluses are large. (Advertising cheese, for example, simply reduces the amount of government purchases necessary to maintain the support price: the blend price of milk received by producers is unaffected.) Assuming the increase in blend price associated with the fluid milk advertising effort is more than sufficient to cover advertising cost, dairymen realize profits from the advertising effort and these additional profits encourage even greater production. This is another example in which promotion programs can be at cross purposes with other governmental policy aimed at controlling production or providing for an orderly reduction in capacity of targeted industries.

CONCLUDING REMARKS

Farm funded promotion schemes have demand and supply side impacts that are yet to be studied in a systematic fashion. Most of the empirical research to date [2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15 are some good examples] has been directed toward answering primarily private sector concerns. Public sector concerns such as the effects of advertising and promotion on price instability, excess farm capacity and disequilibrium in agriculture have yet to be analyzed. Then, too, the general issue of the desirability of advertising and promotion from a social welfare standpoint is bound to surface as farm groups become more active in using promotion as a means of enhancing markets for their commodities.

In developing research programs to address these issues, it may prove helpful to be reminded of a challenge presented in another context by D. Gale Johnson when he stated [6, p. 196]:

> No government or, for that matter, no institution really wants to have an honest or competent evaluation of the effectiveness of its programs.

It is incumbent upon us, especially those in the academic community, to insist that a scientific and critical attitude be maintained in conducting the research and in presenting and discussing results. Comprehensive discussion of the limitations of a piece of empirical research may not be popular with clientele groups because of the uncertainty it engenders, and it may reduce somewhat the probability of the article being accepted by a journal editor, but I believe such discussions are an essential element of any good study. Not only does it protect the researcher (usually) from unwarranted criticism, it also establishes a tone of diffidence that is appropriate for economic research - especially the empirical variety.

REFERENCES

1. Clement, W. E., and Henderson, P. L. *Consumer Response to Various Levels of Milk Advertising for Fluid*. USDA ERS Marketing Res. Rep. 805, October 1967.

2. Clement, W. D., Henderson, P. L., and Eley, C. P. "The Effect of Different Levels of Promotional Expenditures on Sales of Fluid Milk." USDA, ERS, ERS-259, October 1965.

3. Clement, Wendell E. "Some Unique Problems in Agricultural Commodity Advertising." *J. Farm Econ.* 45(1963):183-194.

4. Gunter, Dan L. "Information Needs for Effective Commodity Promotions: Florida Citrus." In *Research on Effectiveness of Agricultural Commodity Promotion*. W. J. Armbruster and L. H. Myers (eds.). Arlington: Farm Foundation/USDA, September 1985, pp. 22-26.

5. Henderson, P. L. "Butter and Cheese: Sales Changes Associated with Three Levels of Promotion." USDA ERS Agr. Econ. Rep. 322, January 1976.

6. Johnson, D. Gale. "Agricultural Trade - A Look Ahead - Policy Recommendations." In *International Trade and Finance Readings*, R. E. Baldwin and J. D. Richardson (eds.). Boston: Little, Brown and Co., 1974, pp. 184-208.

7. Kinnucan, H. "Effect of Canadian Advertising on Milk Demand: The Case of the Buffalo, New York Market." *Canadian Jour. Agr. Econ.* 24(March 1987):Forthcoming.

8. Kinnucan, H. "Demographic Versus Media Advertising Effects on Milk Demand: The Case of the New York City Market." *Northeastern J. Agr. and Resource Econ.* 15(1986):66-74.

9. Kinnucan, H., and Fearon, D. "Effects of Generic and Brand Advertising of Cheese in New York City with Implications for Allocation of Funds." *North Central J. Agr. Econ.* 8(1986):93-107.

10. Kinnucan, H., and Forker, D. "Seasonality in the Consumer Response to Milk Advertising with Implications for Milk Promotion Policy." *Amer. J. Agr. Econ.* 68(1986):562-571.

11. Nerlove, M., and Waugh, F. V. "Advertising Without Supply Control: Some Implications of a Study of the Advertising of Oranges." *J. Farm Econ.* 43(1961):813-837.

12. Thompson, S. R., and Eiler, D. A. "Determinants of Milk Advertising Effectiveness." *Amer. J. Agr. Econ.* 59(1977):330-335.

13. Thompson, S. R., and Eiler, D. A. "Producer Returns from Increased Milk Advertising." *Amer. J. Agr. Econ.* 57(1975):505-508.

14. Ward, R. W., and Myers, L. H. "Advertising Effectiveness and Coefficient of Variation Over Time." *Agr. Econ. Res.* 31(1979):1-11.

15. Ward, R. W., and Tilley, D. S. "Time Varying Parameters with Random Components: The Orange Industry." *South. J. Agr. Econ.* 12(1980):5-12.

16. Waugh, Frederick V. "Needed Research on the Effectiveness of Farm Products Promotions." *J. Farm. Econ.*- 41(1959):364-377.

GENERIC ADVERTISING OF FOOD PRODUCT CHARACTERISTICS

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ABSTRACT

Understanding the effects of information from advertising provides an important analytical basis for evaluating agricultural commodity promotion. A sequential information-decision process model is used to evaluate the effects of promotion and advertising of a food characteristic, the calcium content, on the consumption of dairy products. The multi-stage model, estimated using market ad data, shows advertising to affect beliefs and awareness about product qualities. They, in turn, and not ads directly, increase the purchase of dairy foods.

INTRODUCTION

Traditionally, brand food manufacturers have used advertising as one of the major instruments for differentiating their products. The advertising, aimed at conveying to consumers perceptions of food product differences or brand image, has been primarily noninformational [2, 8]. More recently, promotion of farm commodities and advertising to directly expand the demand for farm products has increased both in domestic and foreign markets. While brand advertising is usually associated with efforts made by major food manufacturers, generic advertising is linked with the efforts of producer-farmer organizations to expand demand for farm products. As advertising of generic food products, much of this advertising has been focused on conveying information about product qualities and uses. Thus it differs from the traditional advertising of food qualities by including informational content, related both to the introduction of "new characteristics" (of which the consumer was previously unaware) and also to changes in the level of information on the value of existing characteristics.

In evaluating the impact of advertising or promotion programs, the process of acquiring information, and related changes to consumers' attitudes and beliefs underlie modeling the effectiveness of advertising consistent with consumer behavior [9]. Ideally, one would like to represent a model of behavior which incorporates explicitly such factors as cognition and recall, rather than assumes them away. In this paper, we present a model which is used to sort the sequential acquisition of information, and thus incorporate the process of advertising in evaluating its effect on consumer demand.

The paper is organized as follows. First we review current economic models which incorporate product quality or attributes. Next, we develop a model to represent the multi-stage process of acquiring information from advertising and the effect of advertising on consumption decisions. The model is then specialized to the case of promotion of dairy products as a source of calcium, and evaluated using data from a market tracking study.

INFORMATION AND PRODUCT QUALITY

The economics of information, as developed by Stigler, focuses on the search for low prices of a homogenous product, given knowledge about the price dispersion in the market [13]. His and later studies argue that informative advertising is valuable to the buyer because it reduces the cost associated with the search for price information about products. Thus, consumers demand information and advertising may be one of the more effective means of satisfying the demand. Following Stigler, Nelson analyzed consumer behavior in markets characterized by joint distributions in both prices and quality. He observed that the information about quality differs from the information about price, implying that the consumer information problem must include both quality and price variability when analyzing the market. Further, commodities may differ in being either "search" goods or "experience" goods: for experience goods, the attributes cannot be effectively evaluated by the consumer prior to the consumption of the product; for search goods, consumers can inspect the product attributes prior to purchase. Foods are generally classified as (nondurable) "experience" goods. Several studies have attempted to more formally study the markets under imperfect information using a Becker-Lancaster approach to multi-attributed products [e.g., 10, 11]. The results of these studies were consistent with Nelson's hypothesis that advertising conveys information.

Khilstrom [3, 4] presented a more complete, theoretical representation of product quality information: commodities are demanded by consumers because they possess desirable attributes; the uncertainty in product quality leads to demand for information. He derived the utility of information from a Bayesian preposterior analysis. As a special case of a Bayesian decision model, his model bridged the work of the "decision theorists" and "economic theorists" on the role of information in consumer choices. However, there remain no strong theoretical predictions about the effects of information on consumer demand under uncertainty [1, 12]. Approaches, such as those which use a sequential process of information acquisition, provide a broader structure within which to evaluate advertising's effects, where the interaction of advertising with the perceived transformation of goods to characteristics is basic to the structure of the model.

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One approach to measuring the impact of advertising used in this paper is based on a model which postulates that advertising works in a hierarchical fashion. This AIDA type model (Attention - Interest - Desire - Action) [7] focuses a hierarchy of effects related to the concept of "involvement", including awareness of the importance of the decision outcome, the degree of actual or perceived risk involved and the degree of felt interest in the subject matter. Appropriately, some researchers have emphasized not one "hierarchy of effects" but many. In either case, the key is to recognize those response measures that follow directly from, and relate directly to, the advertising's objective. Among the factors important to identifying the effects of advertising are the source and type of information which consumers seek and the patterns of information acquisition.

A MODEL

A sequential model of the decision-making process is used to evaluate the effectiveness of advertising information on the consumption decision process. Formally,

$$I = f\ (X_1) \tag{1}$$

$$A = g\ (I,\ X_2) \tag{2}$$

$$C = h\ (P,\ Y,\ I,\ A,\ X_3) \tag{3}$$

where I is advertising information, A is awareness, C is consumption, P is a vector of prices, Y is income and X_1, X_2, X_3 are sets of socioeconomic factors determining the dependent variable. This model depicts a multi-stage process: first consumers get information through advertising; advertising creates awareness of the product quality or related issue; and finally consumption patterns reflect the joint effects of whether or not the consumer is "aware," and, the effects of advertising directly. The motivation for this structure is an attempt to sort the types of information messages and their effects on consumption patterns.

THE CASE OF CALCIUM ADVERTISING

Since 1985, the National Dairy Board has undertaken a broad promotional program, emphasizing the calcium content of milk and other dairy products and the importance of calcium in combatting osteoporosis. Osteoporosis is a disease that has recently been identified as a major public health concern by the Joint Nutrition Monitoring Committee in a review of the health and nutrition status of the U.S. population. Since dairy products provide an excellent source of calcium, the National Dairy Board has launched its advertising campaign, informing the consumers about calcium in dairy products and thus promoting the dairy products. The model described above was used to evaluate the calcium promotion and its effect on changes to the consumption of dairy products: seeing or hearing an "ad" about the importance of dietary calcium represented the obtaining of information, which in turn created an "awareness" of possible health risks associated with low calcium intake. The consumption of dairy products was, then, affected by both these variables.

Data

To evaluate the model empirically, we used data from a Calcium Ad Tracking (CAT) study conducted by Market Facts, Inc. (1985/86) for the National Dairy Board. The survey was a randomly dialed nationwide telephone survey of households, designed to gather information on dairy foods consumption, attitudes and beliefs related to calcium intake, and awareness of calcium advertising. The data were collected weekly and reported on a monthly basis, during period November 1985 through October 1986. The sample included women in 2440 households.

The CAT data provided a rich source of information on attitudes toward health and calcium; the data were more limited relative to measuring actual calcium intake. The respondent's socioeconomic characteristics included: household income, race, age, employment status, marital status, the presence of children under 18, and education. The variables related to advertising information included: whether or not the respondent had seen/heard an "ad" for calcium; and "awareness" of whether "calcium is very important" and that "milk is a good source of calcium". A control for general concern for health was measured through whether the respondent used vitamin supplements. Monthly binary variables controlled for seasonality and for ad campaign efforts. Consumption of calcium was measured by the frequency per month of consuming: dairy products (milk, cheese, and yogurt); milk; and cheese.

Empirical Model

Under the multi-stage model specification, individuals were assumed to determine final dairy products purchases, conditional on the probability of awareness of the feature, and probability of seeing or hearing the advertising information. A two-stage estimation yielded consistent estimates for the parameters of the model [5, 6]. Specifically, the empirical model was

$$I^* = X_1\alpha - \varepsilon \tag{4}$$

$$A^* = X_2\beta + V_1\lambda_1 + \eta \tag{5}$$

$$C = X_3\gamma + V_2\lambda_1 + V_3\lambda_2 + U \tag{6}$$

where I* was 1 if the consumer had seen or heard an "ad", and 0 otherwise; A* was 1 if the consumer had indicated calcium was very important, and 0 otherwise. C was consumption of the dairy product. The X_i again were a set of socioeconomic characteristics; α, β, γ, V_i were parameters; ϵ, η, u represented disturbance terms; λ_i's represented the inverse Mills ratio where $\lambda = \phi(Z)/\Phi(Z)$ if $Z = 1$; and $\lambda = -\phi(Z)/[1 - \Phi(Z)]$ if $Z = 0$; for the Mills ratio, $\phi(Z)$ and $\Phi(Z)$ are the normal probability density function and cumulative density function respectively for the response rule. A maximum likelihood probit estimation procedure was carried out on the "ad" and "awareness" equations. The effect of "ad" was carried through to the "awareness" equation by the inverse Mills ratio of ad variable (λ_1). The consumption equation was estimated through ordinary least squares (OLS) procedure using the inverse Mills ratio of "ad" (λ_1) and "awareness" variables (λ_2), in addition to other relevant variables.

Empirical Results

The results related to advertising *information* and *awareness* are presented in Table 1. As expected income and education had a positive effect on whether the respondent had seen/heard an "ad"; being black and employed full time had negative effects. The effect of age was not significant. Monthly effects, not reported here, controlled for variation in seasonal consumption patterns and different levels of advertising campaign intensity. For the awareness of the related health issue through 'calcium is very important', income and education had positive effects. However, being black had a negative effect on determining the awareness of calcium in relation to health. Importantly, whether the respondent had seen or heard an "ad" had a statistically significant and positive effect on the awareness of the importance of calcium.

Finally, the effect of advertising and awareness along with other socioeconomic characteristics on *consumption* (frequency of purchase) of dairy foods is given in Table 2. No price variables were available due to lack of regional or geographic identification in the data set. They were reflected only in monthly variables. The evidence here also showed the strong support for the role of attitudes and beliefs. For instance, the "awareness" of health related issue, included as the inverse Mills ratio-related to awareness of the importance of calcium, had a significant and positive effect on purchases of dairy products. Further, "caring" in terms of taking vitamin supplements had a statistically significant and positive effect on the consumption of dairy foods; the effect was also positive for milk and cheese separately. The direct effects of advertising were positive towards purchases for dairy foods and milk, though not statistically significant.

SUMMARY AND CONCLUSIONS

This study addressed several issues related to analysis of the effects of advertising information on product qualities. The role of personal belief and attitudes in the process of acquiring information and evaluating advertising effectiveness on consumer demand is generally ambiguous under an "expected utility" framework. A model based on a multi-stage information-decision process was formulated and applied to evaluating the effects of calcium advertising on consumption of dairy products. The model was a recursive one of information-awareness-consumption.

The empirical results showed strong evidence for the importance of "awareness" in increasing the purchases of dairy foods. Thus, the information content of the ad (through changing beliefs) affected consumption of the product. The role of the advertising was through creating such an awareness about a particular message (health, in this study). The ad's direct effect on changes in consumer demand, though positive for dairy foods and milk, was not significant. This approach demonstrated the importance of incorporating the process of decision making into evaluation of advertising impacts, and the "selectivity" that occurs relative to those who are exposed to advertisement. Importantly, the effectiveness of agricultural commodity programs is determined by evaluating their ability to increase demand for the commodity. A good understanding of the promotion process is essential to extending the analysis to evaluate the effectiveness of promotion programs.

REFERENCES

1. Berck, P. and Rausser, G.C. "Consumer Demand, Grades, Brands, and Margin Relationships." *New Directions in Econometric Modeling and Forecasting in U.S. Agriculture*, ed. G.C. Rausser. New York: Elsevier/North-Holland Book Publishing Co., 1980.

2. Connor, John M., Rogers, Richard T., Marion, Bruce W. and Mueller, Willard F. *The Food Manufacturing Industries: Structure, Strategies, Performance, and Policies*. Lexington Books, D.C. Heath and Company, Lexington, Massachusetts, 1985.

3. Khilstrom, R. "A Bayesian Model of Demand for Information About Product Quality." *International Economics Review* 15(1974a):99-118.

4. ___________. "A General Theory of Demand for Information About Product Quality." *Journal of Economic Theory* 8(1974b):413-39.

5. Lee, L.F. "Fully Recursive Probability Models and Multivariate Log-Linear Probability Models for the Analysis of Qualitative Data." *Journal of Econometrics* 16(1981):51-69.

6. Maddala, G.S. *Limited-Dependent and Qualitative Variables in Econometrics*. New York: Cambridge University Press, 1983.

7. Moriarty, Sandra E. "Beyond the Hierarchy of Effects: A Conceptual Framework." *Current Issues and Research in Advertising*, ed. J.H. Leigh and C.R. Martin, Ann Arbor, MI: University of Michigan, 1983.

8. Nelson, P. "Advertising as Information." Journal of Political Economy 81(1974):729-54.

9. Pope, Rulon D. "The Impact of Information on Consumer Preferences." in Proceedings from Seminar on Research on Effectiveness of Agri. Commodity Promotion. Arlington, Virginia, 1985.

10. Rosen, S. "Advertising, Information, and Product Differentiation." In D.C. Tuerch (ed.) Issues in Advertising: The Economics of Persuasion. Washington, D.C.: American Enterprise Institute, 1978.

11. Schmalensee, R. "A Model of Advertising and Product Quality." Journal of Political Economy 86(1978):485-504.

12. Schoemaker, Paul J.H. "The Expected Utility Model: Its Variants, Purposes, Evidence, and Limitations." Journal of Economic Literature 20(1982):529-63.

13. Stigler, G. "The Economics of Information." Journal of Political Economy 69(1961):213-25.

TABLE 1. Maximum Likelihood Probit Estimates of Advertising Information and Awareness of Health Issue

	Advertising Information		Awareness of Health	
	Seen or Heard Ad		Calcium Very Important	
Variable	Estimated Coefficient	Asymptotic t-ratio	Estimated Coefficient	Asymptotic t-ratio
Household Income				
$15,000-24,999	.23	2.71	0.13	1.35
$25,000-39,999	.27	3.13	0.19	1.91
$40,000 and over	.32	3.41	0.02	0.16
Don't Know/No Response	-.063	-.68	0.09	0.81
Race				
Black	-.28	-3.00	-0.21	-2.03
Other Non-white	-.36	-2.89	0.18	1.10
Age (respondent)				
25-34	.068	.81	0.11	1.09
35 and above	-.008	-.12	0.09	1.05
High School Grad	.37	5.07	0.15	1.81
Not Married			-0.11	-1.43
Full Time Worker	-.15	-2.32		
Seen Ad (inverse Mills ratio)			0.18	4.46
Intercept	.10	.82	0.76	4.82
Likelihood Ratio Test (χ^2)	143.20 (df=21)			67.30 (df=22)

DATA SOURCE: Calcium Ad Tracking Survey, Market Facts, Inc.

TABLE 2. Estimated OLS Coefficients for Frequency of Dairy Consumption

Variable	Dairy		Milk		Cheese	
	Estimated Coefficient	t-ratio	Estimated Coefficient	t-ratio	Estimated Coefficient	t-ratio
Household Income						
$15,000-24,999	0.45	0.40	0.42	0.55	-0.23	-0.36
$25,000-39,999	0.60	0.53	0.58	0.77	-0.40	-0.63
$40,000 and over	-0.46	-0.37	-0.57	-0.70	-1.50	-2.17
Don't Know/No Response	1.08	0.85	1.32	1.56	-0.54	-0.75
Race						
Black	-6.03	-4.83	-2.55	-3.07	-2.92	-4.15
Other	-1.10	-0.64	-0.95	-0.83	-0.12	-0.13
Age (respondent)						
25-34	-0.07	-0.06	-1.09	-1.43	0.92	1.44
35 and above	-2.50	-2.41	-1.67	-2.41	-0.65	-1.11
High School Grad	0.34	0.35	-0.42	-0.64	-.08	-.14
Not Married	-.072	-0.84	-0.31	-0.54	-1.07	-2.22
Children < 18	2.87	3.68	2.36	4.51	.79	1.80
Calcium is Important (inverse Mills ratio)	2.83	5.08	1.56	4.17	0.87	2.77
Milk is Better Calcium Source	2.92	4.02	2.78	5.72	.20	.50
Use Vitamin Supplements	2.33	3.21	0.54	1.12	.71	1.72
Seen Ad (inverse Mills ratio)	0.11	0.22	0.07	0.23	-0.23	-0.86
Intercept	35.56	17.80	19.20	14.32	14.41	12.74
Adjusted R^2	0.04		0.04		0.02	
F Statistics (26,2413)	4.73		4.51		2.65	

DATA SOURCE: Calcium Ad Tracking Survey, Market Facts, Inc.

GENERIC ADVERTISING OF AGRICULTURAL COMMODITIES: A DISCUSSION

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ABSTRACT

The historical precedent for generic advertising and public policy questions that arise as a result of its cosponsorship by government agencies were examined. With little attention to consumers' welfare, its affect on consumption and producers' welfare was emphasized. A model linking information processing and consumer behavior presents a useful methodology.

Generic advertising is designed to improve the image and consumption of a particular type of food. Sometimes it provides health and nutritional information. Sometimes it provides cooking instructions. Sometimes it is designed to counter adverse nutritional publicity such as the effects of eating cholesterol in beef. Other times it is used to promote nutritional characteristics such as calcium in milk. It is always designed to push out the demand curve for a particular type of food. To the extent that it can induce habitual consumption of that particular type of food, it may also decrease the price elasticity of demand. Both of these results lead consumers to buy more at higher prices than they otherwise would, which is, of course, the desired result from the perspective of the producer who is paying for the advertising.

The paper by Dermot Hayes was an historical account of how generic advertising came to be. A cooperative agreement between producer groups and the government, called marketing orders, enables producer organizations to tax themselves and request favorable regulations that are enforced by the government. It amounts to a government sanctioned and enforced cartel of agricultural producer groups.

The most common activities of agricultural marketing order groups is to spend their collected tax monies to advertise their products, and to conduct or solicit research on marketing strategies and/or product improvements. For example, in an eight month period between September 1984 & April 1985 the National Dairy Board collected $78 million in assessments from dairy farmers. They spent $68 million on promoting milk and dairy products on TV and other media, making the National Dairy Board the 43rd largest TV network advertiser in America, bigger than American Express or Xerox[3]. The Beef Industry Council, last year, collected $60 million from beef farmers and is spending half for advertising beef and the rest for point-of-sale information, new product development and research [1].

The literature on generic advertising presents opposing views about the effects on consumer behavior and thus, on the market power of the seller[2]. One view is that advertising makes consumers less price responsive. That is, it decreases demand elasticity. This gives the seller more market power. That means they can raise prices further without suffering a decline in the quantity sold thereby increasing their revenues substantially. This, of course, raises consumers' expenditures for that type of food. It also raises serious questions about the overall efficacy of publicly sponsored food advertising. There is a limited amount of food that each person will eat and a limited amount of money they will spend for food. If they increase their consumption of a heavily advertised food, it means they will decrease their consumption of some other type of food. All commodity groups cannot be winners in this game.

The second point of view found in the literature is that generic advertising is informative and, as such, it makes the markets more competitive. Consumers become more responsive to the price of specific foods, readily switching to cheaper substitutes. Actually, there is little empirical evidence about what happens to the price elasticity of demand as a result of generic advertising.

Henry Kinnucan's paper was organized around questions that are asked about 1) the demand response and 2) the supply response. Both private and public parties have different concerns about each response to generic advertising. Private parties, those who design and pay for the advertising, want to know if it is profitable. Although it may be found that sales increase, or even that the demand has shifted out, proving profitability is often illusive. Dermot pointed out that generic ads may not improve the welfare of producers as a whole even though most research has shown individual advertising campaigns tend to increase sales in the short run. In spite of the difficulty in proving how advertising alters consumer behavior, biases in the research system, including academic publishing, tend to foster studies that show advertising "works".

Both Dermot and Henry discussed the possibility of supply increasing in response to higher prices. Increasing supplies could defeat the profit goal as it presses back down on the price - a benefit for consumers. In the case of foods that are already in excess supply, this could, however, increase the need for government expenditures to purchase, store and distribute large surpluses. The concern about increased supply response is, I suspect, exaggerated, but it points out two important assumptions: 1) Generic advertising does, in fact, raise the price. 2) The producer groups have no mechanism for controlling supply. The latter is not necessarily true. Many marketing orders have had provisions for supply control in the past and most have regulations about the size, color, or other characteristics of products that are allowed on the market. These regulations serve to control both the quality and quantity of the supply.

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In Henry's paper "public" concerns were identified as those expressed by government regulators and academics. One of these concerns is the cross commodity effects that could raise government costs as demand for the unadvertised foods drops and surpluses build. Another concern is that prices may become less stable if demand elasticity decreases. This is a more subtle point that is driven by inherent instability in the quantity of agricultural commodities coming to market in any given year. If demand is very inelastic, and short run supply is perfectly inelastic,as shown in Figure 1, then a small change in quantity supplied to the market from year to year makes for big changes in the market clearing price.For example, if supply goes from S_1 to S_2 in Figure 1, price drops from P_1 to P_2.

Figure 1

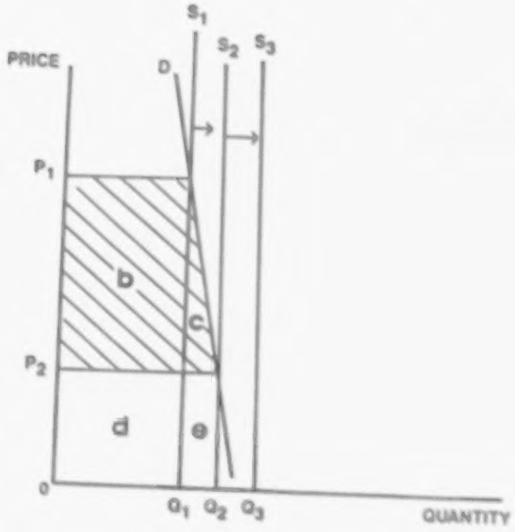

FIGURE 1. SHORT-RUN SUPPLY AND DEMAND FOR AGRICULTURAL COMMODITIES

This leads to big changes in farm incomes and could result in big changes in government expenditures needed to support farm incomes. Unpredictability of government costs is a budgeting problem for the federal government and for those who administer farm programs. Stability of farm prices has been a major goal of agricultural policies; it is unclear how much this goal benefits consumers.

Among the public concerns identified, I did not see several that should be asked by consumers or their advocates. Serious public policy questions that need to be examined from the consumer's perspective include whether the government should be involved in supporting advertising that may send misleading messages. For example, should we be concerned about the conflicting signals coming from the Beef Industry Council and the National Institute of Health regarding the ingestion of animal fats? Should generic advertising be limited to factual information? If so, which facts and facts substantiated by whom? These are not innocent questions particularly in light of ever new scientific evidence about the connections between nutrition and health. On the other hand, some scientific findings strike at the very heart of widely held values about the inherent goodness of foods such as milk and not all consumers take kindly to "value bashing" even by respected government agencies armed with scientific facts.

Another concern which I did not see addressed directly in any of these papers is whether the costs of advertising is sufficient to shift the supply curve back, further increasing in the price of the commodity. Theoretically, this is certainly possible; it does not seem to be part of the research literature.

Helen Jensen's study of the effects of advertising by the National Dairy Board brings us an important development in modeling consumer behavior. As she pointed out, economists have been largely unsuccessful in explaining how information about product characteristics, other than price, affects demand. In standard economics models all factors, other than price, shift the demand curve in or out, increasing or decreasing consumption. Incorporating appropriate demand shifters into demand analysis has proven to be an incorrigible problem for many (agricultural) economists. The recursive model presented by Helen links consumer response to information through its effect on awareness. To its great credit, it acknowledges and accounts for the information processing that must take place before consumers can and will act. In her conclusions she states that "...information content (through changing beliefs) affected consumption of the product." This still begs the question, however, whether beliefs about product characteristics were changed or whether preferences were changed. For producers, who simply want to sell more products, perhaps it is not important. But, as scholars of consumer economics and consumer behavior we continue to be challenged to learn more about exactly how information changes buying behavior.

REFERENCES

1. Dougherty, Philip H. "Advertising: $30 Million Campaign for Beef", The New York Times, January 8, 1987.

2. Green, Richard. "Dynamic Utility Functions for Measuring Advertising Response", Research on Effectiveness of Agricultural Commodity Promotion, Oak Brook, IL. Farm Foundation: Proceedings for Seminar, Arlington,VA, April 9-10, 1985.

3. Manely, Wm. T. and Mary C. Kenney,"Domestic Commodity Promotion Programs: Information Needs", Research on Effectiveness of Agricultural Commodity Promotion, Oak Brook, IL. Farm Foundation: Proceedings for Seminar, Arlington, VA, April 9-10, 1985.

STATE DEVELOPMENTS IN CONSUMER LAW:
IS THE CART LEADING THE HORSE?

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ABSTRACT

This paper will demonstrate that the federal government has taken a back seat to the states in the field of consumer protection. The specific areas where this appears to be the case include: general laws prohibiting unfair and deceptive trade practices; special remedies for violations of new car warranties (lemon laws); dealer inspections and disclosures for used automobiles; and the regulation of national advertising. The resulting complex variations in the law from state to state may lead to: (1) greater efforts by the federal government to intervene in the marketplace on behalf of consumers along the lines of state law; (2) a push for uniform state laws; or (3) an effort by the federal government to force states to deregulate.

INTRODUCTION

There used to be a time when the states would look to the federal government, particularly the Federal Trade Commission, for leadership in the field of consumer protection. Indeed, every state in the nation now has a type of consumer protection statute that goes by the diminutive term, "little FTC Act." In the last few years, however, we have seen a retreat by the federal government from its preeminent role in consumer protection. The trend in both the FTC and Congress is to let the so-called reasonable consumer protect himself in the perfectly competitive self-regulating marketplace. Meanwhile, the states are forging ahead with greater advancements in consumer law to insure that consumers get a fair deal.

I will demonstrate in this paper how time and again the FTC or Congress have cut back or held back on consumer protection, only to have the states fill the gap. And in this field, federal law typically does not preempt concurrent state laws that are not inconsistent with federal law and are more protective of consumers. The result has been good for consumers in some ways, in that the protections state legislatures feel their constituents need have been enacted. The downside, however, is that we have a slightly different set of legal rules for consumer transactions in each state. This makes it very difficult for national marketers or advertisers to do business, and it makes it difficult for the legal practitioners to figure out exactly which ules will apply in any given transaction.

When the business world was confronted with a similar situation some forty years ago, they came up with the Uniform Commercial Code, which has now been adopted in 49 states. [24, pp. 1-6]. Attempts at uniform consumer laws have not met with similar success. For instance, there were three different "model" or "uniform" little FTC Acts, when these laws were being passed in the late 60's and early 70's. [16, p. 5]. The so-called Uniform Consumer Credit Code has only been adopted by 9 states so far. [22, p. 890].

I predict that as states become more and more aggressive, we will have more situations where there are 50 slightly different state statutes all on the same subject. There will be a hue and cry for uniformity. At that crucial point, it will be interesting to see whether the uniformity is in the direction of more consumer protection, or more deregulation.

LITTLE FTC ACTS

Let me give you some examples of what I am talking about. The FTC Act has for some 50 years prohibited "unfair and deceptive trade practices." [5]. Yet only the FTC itself could enforce these sweeping prohibitions. Individual consumers could not sue for violations of the FTC Act. So during the upswing of the consumer movement in the late 1960's, the FTC called on the states to pass their own "little FTC Acts," but with some crucial differences from the big FTC Act. First, state agencies could be enlisted in the battle against unfair and deceptive trade practices. Second, the state laws also provided individual consumers with the right to sue violators, thus creating hundreds of thousands of "private attorneys general" who could significantly increase the consumer protection effort. [13].

Not surprisingly, when each state got down to writing their Little FTC Acts, there were many issues to be resolved. What should be the scope of the law? Should it cover only consumer transactions or should it cover small businesses who have disputes with bigger businesses as well? Should they cover real estate or landlord-tenant matters? And what about remedies? Should consumers get attorneys fees, multiple damages, etc.? Not surprisingly, each state has come up with its own variations. [19, chapters 3-7].

When writing my book, Consumer Protection and the Law, I found I had to devote five chapters to state little FTC Acts because there was so much variation, and because they were so complex. I also constructed a chart comparing the provisions of each state law. [19, App. 3A]. Unfortunately, the production department at the publishing company threatened to revolt when they took a look at this monster I had created with 50 states going down one side with 16 variables for the content of each law.

In the end I had to simplify the chart, but the situation as it now stands is still very complicated. It is a lawyer's paradise in some ways, yet these 50 different variations on a theme can also create a legal nightmare. One wonders whether there might not have been such a push for state little FTC Acts, however, had the FTC been enforcing the federal law more vigorously, or if

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Congress had simply allowed individual consumers to sue under the FTC Act itself. Since the feds were not doing a sufficient job, the states had to fill the gap and we are left with a patchwork of laws.

LEMON LAWS

Origins of State Lemon Laws

Lemon laws provide another example of state law getting out in front of federal law. In what is proving to be one of the most significant developments in state consumer protection law of the 1980's, some 41 states and the District of Columbia have enacted laws aimed at providing better remedies for consumers who end up with new cars that cannot be repaired satisfactorily. [19, App. 15A]. Connecticut in 1982 was the first state to pass such a law, and its statute has been used as a model for other states. [19, p. 15-4]. As might be expected, there are variations from state to state.

What sparked this wave of state legislation? First of all, it should be noted that consumers have some recourse for breach of warranty under the good old Uniform Commercial Code. [23, pp. 593-615]. The problem was, the UCC allows the manufacturer to limit its remedy to repair and replacement of defective parts, whereas the typical lemon owner want to return the car and get her money back. Traditional contract law also did not permit consumers to sue manufacturers directly for breach of implied warranties due to the lack of privity between them, i.e., the manufacturer sells to the dealer who sells to the consumer, but there is no "privity of contract" between the consumer and the remote manufacturer.

Inadequacy of the Magnuson Moss Warranty Act

So what about the federal government? Why didn't the feds come to the rescue of the lemon buyer? You may have heard of the Magnuson Moss Warranty Act, passed in 1975 at the crest of the consumer protection wave in Congress. [14]. This has been hailed as a major piece of consumer legislation, and indeed it is. But it did not go far enough.

The Magnuson Moss Act concentrates on making sure that the warranties that are offered are disclosed in a manner that is not misleading and that consumers can understand. Manufacturers have the option of offering what is called a full warranty under the Magnuson Moss Act, and a full warranty does provide the sought after remedy of being able to return the lemon and get your money back. [20]. But Congress did not require any manufacturer to offer this protection. It is voluntary. And guess what? The vast majority of automobile manufacturers offer only limited warranties.

How the Lemon Laws Work

Consumers turned to their state legislatures for relief, and the states proved willing to provide it, or at least they tried. Under the typical lemon law, if a new car is in the shop for repair for a set period of time (usually 30 days) or if the same problem is not successfully repaired after a certain number of attempts (usually 3 or 4), then the consumer is entitled to a refund or a replacement vehicle. [21] The lemon laws essentially streamline the legal route toward the preferred remedy, namely replacement of the car or a refund. These remedies were available under the UCC, but only if the consumer could overcome some formidable legal barriers. [19, pp. 13-15 to -40].

The lemon laws themselves have some shortcomings and limitations that prevent them from being the panacea that many had hoped they would be. But regardless of their flaws, the lemon laws are the result of a groundswell of political pressure in the state legislatures. People were having problems with their brand new cars that were not being addressed adequately by the legal system. Query whether this development would ever have materialized had Congress mandated that the consumer's preferred remedies be available to new car buyers when they passed the Magnuson Moss Act. Federal enforcement of a federal lemon law might be the best solution at this point. [23, pp. 666-74].

Informal Dispute Resolution

This is not the end of the story of consumers' disappointment or even betrayal by the federal government in the area of new car warranty problems. Most of the state lemon laws require the consumer to pursue his claims under the manufacturer's informal dispute resolution program. [19, p. 15-16]. This was considered a benefit to consumers who might be able to get some help without having to incur the trouble and expense of hiring a lawyer and going to court. But of course the legislatures wanted to be sure that the informal procedure would be fair to consumers. Some standards would need to be set.

Where did the state legislatures go for the standards for informal dispute resolution? States not yet totally disillusioned with the FTC were willing to incorporate by reference the FTC regulation setting minimum standards for warrantor's informal dispute resolution systems. [19, p. 15-14]. The FTC regulation, known as Rule 703, had been promulgated pursuant to the Magnuson Moss Warranty Act. [7]. The FTC procedures had not had much usage, however, since it was optional for the manufacturer to establish such a system. Naturally, the states chose not to reinvent the wheel when there was already a fairly decent set of standards on the books.

Once states started to condition suit under their lemon laws on the consumer exhausting her remedies under the manufacturer's FTC approved informal dispute resolution process, most of the major automobile manufacturers rushed to set up such programs. [12, pp. 71-72]. Without the state laws, virtually no manufacturer had chosen to set up programs in compliance with the FTC rule because there was no real incentive for them to do so under the Magnuson Moss Act.

With the onslaught of the new dispute resolution systems, however, came new problems. Some state officials, such as Attorney General Joseph Lieberman of Connecticut, charged that some of the programs of the major car manufacturers were not complying with the FTC rule. [19, p. 15-18]. Yet the FTC was doing nothing about it. Indeed, the FTC exempted most of these progams from the original 40 day deadline for making a decision on the consumers claim, adding an additional 20 day conciliation period. [8].

Once again, the Federal Trade Commission let down its allies in consumer protection in the state governments. Connecticut and other states amended their lemon laws to provide that the state attorney general would have to certify that an informal dispute resolution process complied with the applicable regulations, rather than awaiting any action by the FTC. Other states have set up their own state run progams. [19, pp. 15-18 to -20]. The FTC simply could not be relied on to protect consumer interests adequately.

USED CAR SALES LAWS

Lemon laws address the issue of problems with brand new cars that are still under warranty. But many consumers must make do with second hand vehicles. They find themselves at the mercy of the used car dealers. Now of course there are many used car dealers who are honest and fair. But the average consumer is at a disadvantage when it comes to evaluating the worth of a used car. Problems can be hidden, and will not be revealed by the time honored method of kicking the tires. Consumers normally look to the dealer to provide some sort of warranty or guarantee.

The major problem in used car sales, as revealed by a lengthy FTC investigation, was that consumers were likely to take the salesperson's word on the condition of the car and the dealer's promise to repair. Too often, the trusting consumer was sandbagged by the fine print in the contract which took away any promises that might have been made. [9, pp. 45,696-700].

In an attempt to equalize the situation, the FTC in 1978 proposed a rule governing the sale of used cars. The original version would have required dealers to inspect their cars and disclose any defects. This proposal was rejected because it was too costly to dealers, not sufficiently beneficial to consumers and also because this approach posed some legal problems for the Commission. [9, p. 45,719].

The FTC in 1984 (after having an earlier version of the rule vetoed by Congress only to have the veto overturned by a reviewing court), instead opted for a considerably watered down rule. [19, p.16-4]. In the end, the FTC used car rule simply requires the dealer to post a window sticker describing the warranties offered (if any), warning consumers to get all promises in writing, and suggesting that consumers ask about the possibility of having a third party inspect the car at the consumer's own expense. [9].

The FTC rule has only been on the books for a few years, but predictably, states (such as New York and Rhode Island) are amending their own statutes to make up for the perceived deficiencies in the FTC rule. [19, pp. 16-8 to -11]. Now we face the prospect of a crop of used car lemon laws. Wisconsin and other states already had inspection laws for used car sales on their books before the FTC took action. [Id.] Once again, state legislatures may be inspired to pass legislation if their constituents are still complaining about used car problems despite the passage of the FTC regulation.

NATIONAL ADVERTISING

Even in the area of national advertising, a topic especially suited for federal priority, the state attorneys general are having to take up the slack because the FTC is not doing its job. Within the past several years, the state of Texas challenged Kraft's misleading advertising of Cheeze Whiz as "real cheese;" New York, Texas and California have been looking into allegedly misleading advertisements for McDonalds' Chicken McNuggets; and New York alleged that Arby's was promoting a high caloric sandwich as a "lean meal." [11].

Where was the FTC, formerly willing to take on the likes of Kelloggs and General Foods? According to New York Attorney General Robert Abrams in a February 13 speech to the Consumer Federation of America, the FTC pursues cases "against minnows and lets the whales go by" but ignores "the serious instances of deceptive advertising by manufacturers of national products." [1]. For instance, one of the FTC's bigger victories in national advertising in recent years was to obtain an injunction against the maker of "Daily Greens," a powdered vegetable pill touted as a cancer preventative. [10]. The Commission also moved against a false advertisement for a mouthspray that was supposed to help one fool the breathalyser. Granted these cases involved obvious frauds but the sales of such products were so small that only a few consumers were really helped. Such are the minnows pursued by the FTC in recent years. The larger national advertising campaigns, which present more difficult issues but affect many more people, are left for the whalehunters like Attorney General Abrams or for private self-regulatory groups such as the National Advertising Division of the Better Business Bureau.

FUTURE DIRECTIONS

As more examples are added each year to the list of areas where the states have felt they had to take over to protect their own consumers because the federal government did not go far enough, one wonders where all this will end. A situation where national marketers face a crazy quilt of different legal requirements in 50 states may not be tolerated forever. Consumers making multi-state transactions (such as mail order) may find themselves in a quandary as to what their rights actually are. There may well be a pressure for uniformity at some point. But which direction will that take?

One possibility is that the federal government, through Congress, may realize that the will of the people is embodied in the state laws offering consumers more protection in the marketplace. They may upgrade the federal consumer laws to reflect these trends and then preempt state laws providing less protection. Even industry magazines such as Advertising Age are calling for a more vigorous enforcement of deceptive advertising laws by the FTC to avoid having a few states dictate the shape and direction of national advertising. [15].

Second, states may themselves get together and seek to harmonize their laws through the promulgation of uniform or model state laws. The state unfair and deceptive trade practices acts and the state lemon laws are two areas where this would be effective. The major obstacle to this approach, of course, is getting 50 state legislatures to agree on a uniform law.

Finally, the federal government may seek to impose its current free market zeal on the states through its preemptive powers. Thus far, the major federal consumer protection statutes and regulations provide specifically that states may pass their own concurrent measures so long as they are not contradictory to the federal law, and provide at least as much protection as the federal law does. [14, Sec. 2311].

There is a nascent federal power to preempt, however, which may be imposed. This has happened in the area of cable television regulation, where local communities for a while had the power to regulate cable television services, until Congress rewrote the law and essentially wrote the local communities out of the regulatory picture. [3, 2, pp. 2-24 to -33]. Preemptory deregulation is a possible outcome in consumer protection as well. Daniel Oliver, the current Chairman of the FTC, says that state regulation of national advertising, for instance, is a "dark cloud" threatening to allow a single state to erect a total barrier to commerce in the rest of the 49 states. [17]. He would obviously like to prevent the states from exercising any regulatory authority in this area.

Given the popularity of consumer protection measures at the state level, however, I doubt that the FTC or Congress will be willing or able to force deregulation by preempting state laws. First of all, there are so many state laws on the books that preemption in the direction of deregulation would cause much turmoil at the state level. Second, the political winds do not seem to be in favor of eliminating state's efforts to fill the gaps if the FTC remains inert.

I conclude that sooner or later the pendulum will swing back toward greater activity and leadership at the federal level in the area of consumer protection. I would point to the FTC's 1984 Credit Practices Rule as an example of future directions. This rule prohibits the use of several unsavory collection methods that had already been outlawed or restricted in many states (with the usual variations from state to state). [6]. The FTC imposes a uniform rule on these practices, yet it more or less followed a trend toward greater consumer protection that was already developing in the states.

While the FTC and Congress may lag behind the states a bit in future years, eventually these reforms will be imposed on a national level. Political pressures would not permit a preemptive deregulatory strike. In the end, the federal government will follow the lead of the states and might even one day get back into the driver's seat.

REFERENCES

1. Abrams, Robert. Address to the Consumer Federation of America, February 13, 1987, quoted in Antitrust & Trade Regulation Report 52: 332, February 19, 1987.

2. Brenner, Daniel and Price, Monroe. Cable Television and Other Nonbroadcast Video. New York: Clark Boardman Co., Ltd., 1986.

3. Cable Communications Policy Act of 1984, 47 United States Code Sections 521-559.

4. Colford, Steven. "Push on for More State Ad Control," Advertising Age, December 15, 1986, 82.

5. Federal Trade Commission Act, 15 United States Code Section 45(a)(1).

6. Federal Trade Commission. Trade Regulation Rule, Credit Practices, 16 Code of Federal Regulations Part 444.

7. Federal Trade Commission. Trade Regulation Rule, Informal Dispute Settlement Procedures, 16 Code of Federal Regulations Part 703.

8. Federal Trade Commission. Trade Regulation Rule Concerning Informal Dispute Settlement Procedures, Final Approval of Exemption, Federal Register 49(1984):28,397 and 50(1985):27,936.

9. Federal Trade Commission. Trade Regulation Rule, Used Motor Vehicles, 16 Code of Federal Regulations Part 455; and Statement of Basis and Purpose, Federal Register 49(1984):45,692.

10. Federal Trade Commission v. Pharmtech Research, Inc., 576 Federal Supplement 294 (U.S. District Court for the District of Columbia

1983).

11. Hamilton, Martha. "States Step In to Fight False Advertising," *Washington Post*, April 6, 1986, F1.

12. Kinnard, Joyce. *Magnuson-Moss Litigation Manual: Auto Warranty Cases.* Washington, D.C.: Center for Auto Safety, 2d edition, 1984.

13. Leaffer, Marshall, and Michael Lipson. "Consumer Actions Against Unfair and Deceptive Acts or Practices: The Private Uses of Federal Trade Commission Jurisprudence." *The George Washington Law Review* 48(1982):521.

14. Magnuson-Moss Warranty--Federal Trade Commission Improvement Act, 15 United States Code Sections 2301-2312.

15. "Miller's Unfinished Legacy," *Advertising Age*, July 29, 1986, 18.

16. National Consumer Law Center. *Unfair and Deceptive Acts and Practices.* Boston: National Consumer Law Center, 1982.

17. Oliver, Daniel. Address to the American Advertising Federation's Spring Government Affairs Conference, March 12, 1987, quoted in Antitrust & Trade Regulation Report 52:551, March 19, 1987.

18. Pertschuk, Michael. *Revolt Against Regulation: The Rise and Pause of the Consumer Movement.* Berkeley: University of California Press, 1982.

19. Pridgen, Dee. *Consumer Protection and the Law.* New York: Clark Boardman, Ltd., 1986.

20. Reitz, Curtis. *Consumer Protection Under the Magnuson-Moss Warranty Act,* Philadelphia: American Law Institute/American Bar Association, 1978.

21. Rigg, Margaret. "Lemon Laws." *Clearinghouse Review* 18(1985): 1147.

22. "Uniform Consumer Credit Code." *Selected Commercial Statutes.* St. Paul: West, 1985.

23. Vogel, Joan. "Squeezing Consumers: Lemon Laws, Consumer Warranties, and a Proposal for Reform." *Arizona State Law Journal* 1985: 589.

24. White, J., and R. Summers, *Handbook of the Law Under the Uniform Commercial Code.* St. Paul: West, 2d ed. 1980.

CAN PROVIDING INFORMATION CONTROL RISKS FROM CONSUMER PRODUCTS?

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As any modern consumer knows, more and more products are labeled with more and more information. Many of these labels include information that is intended to limit the risks from the product rather than just to describe or sell it. The risks posed by consumer products cover a broad range of severity and consequence, from explosion to a mild rash, from permanent paralysis resulting from improper use of a swimming pool slide to temporary reduction in hearing acuteness.

Providing information, usually through labels, is the most widely-used means of controlling risk from consumer products. Labeling is attractive because providing information is, next to taking no action, the cheapest regulatory response available and because it also retains the broadest range of freedom of choice for the consumer. Direct regulation, which is more expensive, either removes the product from the shelf entirely or imposes severe constraints on the ways in which it can be used, often through design changes.

The answer that this paper gives to the question in the title is, "Yes, providing information on labels can control risks from consumer products, but only under the appropriate conditions." The answer to the other implied question--is information provision an appropriate public policy--is also "yes, under appropriate circumstances."

The conditions under which providing information is an appropriate risk control strategy are easy to describe but difficult to implement: 1) information about the risk and the control strategy must be available; and 2) the form in which the information is presented is clear and straightforward, encouraging the user to take the action necessary to reduce the risk.

The remainder of this paper elaborates on these conditions, suggesting first that present labels do not meet the second criterion and means for overcoming this difficulty and then turning to the question of availability of information. It concludes with a brief discussion of new information-provision programs. Parts of the paper summarize a full-length work on the same subject, but they present the material in a way that differs substantially from the longer work [6].

LABELS SHOULD BE EASY TO UNDERSTAND AND USE

Although the eighty-year history of labeling products to reduce risks to consumers is characterized by ever-increasing amounts of label information, policymakers seldom if ever considered the format in which the information should be presented. The result is that most products' labels are poorly organized and difficult to read.

First, labels are difficult to read and understand because of their attempt to provide a lot of information in a few words. For example, the label on charcoal once included a warning to provide "adequate ventilation." Consumers would be hard put to know what "adequate" means in this case. A revised wording is much better but still entails understanding multisyllabic words:

> WARNING: Do not use for indoor heating or cooking unless ventilation is provided for exhausting fumes to outside. Toxic fumes may accumulate and cause death [2].

On most ordinary products, the warnings appear at the very bottom of the container and are all jumbled together or, worse, are interspersed in the text with descriptions of product uses and virtues. Consumers do not see the warnings at all, or ignore them because they are part of a long text.

Finally, most labels currently in use require the user to come to them with a broad base of knowledge. In some instances, it is reasonable to assume that a person has the information: individuals with pacemakers heed the warnings on the electronic detectors in stores and libraries. In cases such as saccharin, it is less reasonable to assume that individuals have enough preexisting knowledge to determine what to do knowing that the product "has caused cancer in laboratory animals." Similarly, consumers generally are not aware of the distinction between hazards indicated by the signal words "DANGER," "WARNING," and "CAUTION." Even the label showing the Recommended Daily Allowance of nutrients requires the user to be able to calculate percentages--a condition not always fulfilled [5].

Labels are by necessity and design short; they are not intended to give all information necessary to understand and control a risk. But labels embody a wide range of assumptions about what people will know. A better policy is to formulate labels that allow people to understand risks more clearly.

Suggested Label Changes

Labels can be changed to alleviate these problems. My proposal entails creating a label that is hierarchically organized, with each level providing more detailed risk information than the level above it. Symbols would be added to catch users' attentions and provide first-cut information about risks. Within each level, risks are broken out according to the point in the use cycle at which the hazard may occur. Language is as specific and simple as possible.

Symbols function as the first level in a hierarchy of information by telling users that the product poses a hazard and by providing a first indication of the nature (and possible degree) of that hazard. If the danger is germane to the user, he reads the second level of more detailed information to discover exactly how he should act to reduce the hazard, or to obtain a more careful description of the hazard itself. Thus, a symbol system indirectly serves a third purpose: it reduces the likelihood of information overload by allowing users to determine very quickly whether they need to obtain further information. Symbols are especially effective for this purpose because they are processed much more quickly than words.

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Since 1970, Canada has used a consistent system of hazard symbols for consumer products. Symbols were chosen for hazard warnings in part because Canada has two national languages. The system uses three different shapes--octagon, diamond, and triangle--to represent three different hazard levels. One of four pictorial symbols indicating the nature of the primary hazard--whether poison, corrosive, flammable, or explosive--is inserted into these shapes [3]. A survey taken seven years after their introduction found the symbols to be quite effective; 80 percent of respondents recognized the poison and flammable symbols, while slightly less than half recognize the other two [4].

Many people have objected to symbol systems. It is difficult to develop pictograms that are easily associated with the many hazards. Pictograms are not exact enough to distinguish among related hazards (e.g., those where a touch will result in a shock from those where it will result in skin damage.) These impediments only arise, however, when symbolic labels are asked to accomplish too much. Pictures require less processing time and are often less ambiguous than words; these advantages are lost as the pictures become more and more detailed, or more and more abstracted from the meaning they are intended to convey. If the purpose to be fulfilled by the pictogram is limited to attracting attention and indicating the general nature of the hazard, then these objections have less force. The symbols I propose for product labels would be limited in number and in detail because they would be used to indicate only the pathway by which the risk is effected.[2] A simple labeling system could also indicate degree of hazard, enhancing its utility as a risk indicator. However, this category of information threatens to overload the symbol, therefore, I would omit it from the first level of information on labels.

The pathway by which the risk accrues is of critical importance to a potential user. Symbols can readily indicate this information by closely representative pictures. Although the hazards themselves are virtually numberless and often difficult to depict, the only pathways by which a person can be exposed are touch, breathing, or eating, which are easily shown through pictures. (Combustion and explosions, which can injure bystanders, should also be included.) For explosiveness and burning, where heat is often the provoking factor, a symbol could be developed that shows that exposure to heat is of concern.

Figure 1 shows a real label redesigned using the proposed hierarchical arrangement. Level 2, which provides summary warnings, also includes brief descriptions of the consequences of improper use. This feature enhances the utility of labels as conveyers of risk information and also increases the likelihood that people will heed warnings.

Level 3 deepens this information with further descriptions of physical characteristics, more detailed instructions for use, and, where appropriate, additional information about the severity or frequency of risk. Level 3 information is also presented in outline form, which increases both comprehension and ability to use risk information. Its primary innovation is to separate the warnings and other information according to the point at which they apply: that is, in use, in storage, or in disposal. As Figure 1 shows, very different kinds of risks inhere in these different activities. Level 4, which I will not discuss in detail here, consists of a reference to a computerized data base accessible to the public where further detailed information about the product's components, especially chemical components, and their associated risks can be found.

The wording of the information, especially at level 3, is a central element in the utility of the label. Specificity of wording increases the likelihood of effective action. Specific labels also constitute an improvement over general ones because they require the user to bring much less information to the label. The following warning, which was often used on OTC drugs, aptly illustrates a label that requires the user to bring information to the label:

> CAUTION: May cause drowsiness. Do not use when operating heavy machinery.

The phrase "heavy machinery" may conjure up images that have more to do with a construction site or manufacturing plant than with the home," even though it is clearly intended to apply to automobiles. In response to these considerations, FDA now requires many drugs to bear the following message:

> CAUTION: Avoid driving a motor vehicle or operating heavy machinery [7].

It would be possible to design a still more fully elaborated version, that clearly describes when to take the medicine.

Thus specificity and concreteness, a related characteristic that aids understanding, are achieved by giving examples and clear directions, such as "weigh yourself every day before break-

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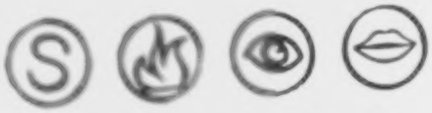
[2] My proposal also includes symbols indicating whether risk is long- or short-term, but limitations of length preclude discussing that proposal in full.

Figure 1. Proposed Model Product Label

1. Symbol



2. Summary Cautions and consequences

CAUTION: WILL EXPLODE IF EXPOSED TO HEAT OR FLAME

DO NOT TAKE INTERNALLY OR GET IN EYES: MAY PERMANENTLY HARM EYES OR STOMACH

3. Detailed Risk and Product Description.

USES: Hours of protection from mosquitoes, deer flies, ticks, and chiggers. Repels fleas from treated skin. Also works on clothing.
PRODUCT FEATURES: Not greasy, won't stain, resists perspiration. Most effective repellent ingredient ever developed.

TO USE:

SAFETY CAUTIONS: AVOID CONTACT WITH EYES OR LIPS (WILL PERMANENTLY BURN). KEEP OUT OF REACH OF CHILDREN. WAIT UNTIL LIQUID HAS EVAPORATED BEFORE ALLOWING TREATED SURFACES NEAR FIRE, SPARKS, OR FLAME.
CHILD-PROOF CAP: To spray, remove tamper-proof tab on front of spray cap. Look into hole on top of cap and turn cap until white mark appears. To lock, turn cap until white mark disappears.

DIRECTIONS: To apply to face, spray in palm of hand in short bursts and spread on face and neck, but not near eyes or mouth. Will cause severe stinging of eyes and mouth and may result in permanent damage to vision and/or stomach pains. To apply to body or clothing, hold 6 to 8 inches from surface and moisten slightly with slow sweeping motion. Saturation not necessary. Be sure to apply to pants cuffs and socks and openings in outer clothing if you are trying to stop chiggers or ticks.

Do not apply to rayon, spandex, vinyl, or dynel, since fabrics may disintegrate when touched by [product].

TO STORE: SAFETY CAUTIONS: STORE AWAY FROM HEAT OR FLAME CONTENTS MAY EXPLODE.

TO DISPOSE: SAFETY CAUTIONS: CONTENTS UNDER PRESSURE. DO NOT PUNCTURE OR INCINERATE. CONTENTS MAY EXPLODE.

FOR ACCIDENTAL INGESTION: DO NOT INDUCE VOMITING. KEEP PATIENT QUIET AND CALL POISON CONTROL CENTER. TELL THEM PATIENT HAS INGESTED DIETHYLMETATOLUAMIDE IN ALCOHOL/OIL BASE.

4. Referral to more detailed information

For additional information, consult the Consper Data Base. Product #75-22 fast" rather than "weigh yourself every day [1]. Specification is not helpful, however, unless label wording is simplified. The charcoal label described above is an example.

Simplification is not without its drawbacks. Using shorter words and sentences may make the message ambiguous or unable to convey critical technical points. However, the appearance of simplicity, with comcomitant gains in comprehension, can also be obtained by following well-known rules of writing style: avoid passive voice and negative statements, for example. Many labels are indeed beginning to show a heightened concern for clearer expression; for example, a new sugar substitute carries the explicit statement: "Phenylkentonurics: Contains Phenylalamine." New York City has found increased compliance with parking regulations when signs explaining them are simplified to increase understanding 8 . Combined with a hierarchical presentation of the information, simplification of wording should increase the utility of risk warnings on product labels.

Inconsistency

In addition to the problems outlined above, labels are also hard to read and understand because similar hazards are labeled in different ways; in some instances, the same signal is used to indicate different hazards. The evolution of labeling policy and its dispersal among several agencies has exacerbated these inconsistencies. Although most agencies use different words to indicate different degrees of hazard, with "DANGER" indicating the highest risk, some agencies employ two additional categories--indicated by "WARNING" and "CAUTION" respectively--while others have only additional category and use these two words interchangeably. The precise degree of danger indicated by the words is also inconsistent, since the cutoff points for inclusion in the three categories differ among the agencies [6].

Besides signal words, two other devices, color and numbers, are widely employed on warning labels. One widely used system employs toxicity categories for which "1" indicates the most danger, while other systems use "1" to indicate a very low degree of hazard. Still another agency uses letters instead of numbers. Similarly, colors are employed in different ways. Although red is commonly used as an indicator of flammability hazard, yellow is used for oxygen, physical hazards, or reactivity hazards. In other common risk situations, such as traffic, yellow is used to indicate caution.

Because consistency heightens recall and reduces the likelihood that people will respond inappropriately, content as well as format should be made consistent. A set of guidelines should be adopted within all federal agencies that will direct the ways in which particular hazard indicators are used. These guidelines will say, "If you decide to use a numerical hazard warning system, "1" must be used to indicate the highest (or lowest) level of hazard. When using color indicators, red must be used to indicate the highest level, yellow the intermediate level, and blue the lowest level."

The particulars of these guidelines can be worked out in several ways. One would be to survey agencies and industry to learn which guideline differs least from existing systems. Another would be to conduct research on which systems are most effective. One objection to such guidelines is that they impose costs inequitably on those using different systems. Benefits of consistent labeling, though difficult to measure, would be substantial, since it would enable people to make quick and accurate decisions. Consistent labels could be introduced gradually with new products and inevitable label changes on existing products.

Labels Don't Discuss Risk

Many current labels do not present risk information. In this discussion, "risk" connotes both the probability and the nature of unfavorable outcomes. A primary reason for labeling is to provide people with information adequate to aloow them to make well-considered risk choices. Policymakers like labeling precisely because it leaves these difficult choices to the individuals who will benefit or suffer the risk. Unfortunately, many labels do not describe the hazards at all, and, of the ones that do describe the hazard, most give limited information about severity and none about probability.

Perhaps the most striking example of labels that do not provide risk information are those on prescription drugs, which inform the user that the drug is not to be taken except on the prescription of a physician. Over-the-counter drugs must be clearly labeled with side effects and contraindications. But prescription drugs, which are more dangerous, are not labeled, except for those few for which Patient Package Inserts have been required. Many products, including consumer goods and some pesticides, simply display instructions on how to avoid hazards (e.g., "do not inhale"), requiring the user to infer the consequences of ignoring the instruction.

Although the history of information provision policies suggests that the purpose of labels is to tell potential consumers about the risks of products, the virtual absence of risk information on labels may not be a serious problem. Labels do generally describe hazards--that is, the undesirable outcome that may occur. What they do not describe is the probability part of risk. We know, however, that people are very poor at understanding and using information about probabilities; their perceptions of probability are subject to the Gambler's Fallacy, the availability bias, and other similar perceptual problems. Provision of full risk information including probabilities may therefore impede rather than assist users in making appropriate decisions about the risks from potentially hazardous products. If labels fulfill the conditions described above, namely that the hazard is adequately described and clear instructions for mitigating or avoiding the hazard presented, they will probably serve quite adequately to aid consumers in avoiding risks.

Long-Term Risks

At the beginning of this paper I suggested two characteristics that would allow information provision to control risk, of which the first is that information about the risk and the control strategy must be available. Thus far, I have ignored this criterion, focusing on possible improvements in the way information should be presented to be useful.

Insofar as the present labeling system is successful, it is because it is focused on acute or short-term hazards--ones whose ill consequences occur immediately if at all. This emphasis is the logical outcome of the relative certainty of information about short-term risks, its low cost, the obvious benefits of providing the information, and the ease of understanding it. The scientific and economic reasons are reinforced by history; a voluntary labeling standard developed by the chemical industry in the 1940s, from which many present-day labeling requirements are derived, stressed acute hazards.

Long-term hazards such as mutagenicity and carcinogenicity are quite different, however. Information about them is not readily available and is difficult to understand when it is available. The saccharin label helpfully tells us that the product "causes cancer in laboratory animals." What are we to make of this information, even if we know the problems of extrapolating from laboratory animals to people and are aware of the precise doses that appeared to cause excess tumors in tumorogenic rats? Moreover, it is very difficult to provide instructions to users about ways to reduce the risk from these products, since we often do not understand the pathways by which the risk accrues.

The alternative to labeling, however, is stronger forms of regulation, including banning. Society is unlikely to wish to bear the costs of such policies for the many substances known to have long-term health effects. Ironically, the prospect is for more and more information about long-term risks to be foisted on consumers; many localities now require that lawns where pesticides have been sprayed be posted with notices of that fact, and some consumers have asked that the Environmental Protection Agency label products as "not fully tested" which have not been subjected to the full range of experiments about long-term health effects. Title III of the Superfund Reauthorization Act of 1986, a separate act known as the Emergency Response and Community Right-to-Know Act, requires that the public have access to vast amounts of information about chemicals stored and used in their communities and about deliberate and accidental emmissions of these substances into the environment. Title III does not include any provisions insuring that citizens will be assisted in understanding or acting appropriately on all this information.

Labeling of long-term hazards constitutes a particular challenge for those interested in communicating with consumers. Further studies of risk communication with special attention to risks whose effects are not felt for years, efforts to understand how people do perceive such risks, and attempts to devise appropriate educational programs will constitute an important challenge for a broad range of disciplinary experts in the coming years.

REFERENCES

1. Bradshaw, P. W. et al. "Recall of Medical Advice: Comprehensibility and Specificity." British Journal of Social and Clinical Psychology 14:55.

2. Consumer Product Safety Commission. Policy Guidance Letter No. 61. February 5, 1974.

3. Canada. Hazardous Products Regulations, CRC, c.926 as amended by PC 1978-1380.

4. Contemporary Research Centre Limited. "A Study on Awareness and Identification of Hazardous Product Symbols" (study prepared for the Department of Consumer and Corporate Affairs). January 1977.

5. Daly, P.A. The Response of Consumers to Nutrition Labeling. Journal of Consumer Affairs 10:179-189.

6. Hadden, Susan G. Read the Label. Boulder, Colorado: Westview Press for the American Association for the Advancement of Science, 1986.

7. Kanouse, David E. and Hayes-Roth, Barbara. "Cognitive Considerations in the Design of Product Warnings." In Louis A. Morris, Michael B. Mazis, and Ivan Barofsky. Product Labeling and Health Risks. Banbury Report 6. Cold Spring Harbor: Cold Spring Harbor Laboratory, 1980. p. 149.

8. Prial, Frank J. "Simpler Parking Signs Appear to be Working." New York Times, January 5, 1985. p. 15.

JUSTICE AND CONSUMER EDUCATION

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ABSTRACT

Most emerging social issues--family and consumer, domestic public policy, international relations--relate to questions of preference among consumers and resource distribution. What is it that constitutes satisfaction, for whom, when, and where? And is there a consumer responsibility to correct economic injustices? This paper includes a brief ethical inquiry into the theory of rational choice, and then offers suggestions for research and teaching about ethical aspects of consumption.

INTRODUCTION

It is with pleasure and a great deal of personal interest and commitment that I respond to the invitation to contribute to the topic of research priorities in consumer education. My thoughts today are directed at the consumer education concepts dealing with the development of household preferences among consumers and the social responsibility of households. I see a need to address in the classroom the emerging social concerns relative to consumption and justice, such as resource use and distribution, environmental pollution, the macro effects of one's consumption on others, and tradeoffs in satisfactions between today's consumers and the needs of future consumers.

The component of a consumer education course which focuses on development of household preferences, Robinson states, is "essentially an examination of the household looking inward to determine its values and goals. . ." (9, p. 10). In my opinion, this component of consumer education is the core out of which all the rest comes. Since it addresses the purposes or ends of living considered by the household to be imperative for satisfaction to be achieved, it defines the basic motivation for consumption activity. However, despite its centrality, this part of a consumer education course is often at best a consciousness-raising exercise about the fact that values exist and are influential. There is usually some reference made to the need for values clarification, acknowledgement of the significance and complexity of value issues, admonition of the need to be aware of the importance of values, and then a summary of sorts that relies heavily on goal setting and decision-making techniques--in fact, a summary of home management theory. As well, many educators feel they should remain value-neutral and thus are reluctant to share or advocate a particular value position, lending a further sterility to this section of the course of study. We just don't know quite what to do with it, and I submit that this is one criterion which makes it a priority for further research effort.

A further imperative which lends its support to the need for research in this area is that the emerging consumer issues, the emerging public policy issues, and even the critical world peace issues relate to that core. What is it that constitutes satisfaction, for whom, when, and where? And is there a consumer responsibility to act in ways which attempt to correct economic injustices? These are philosophical questions, and a return to the foundations of ethical theory is helpful in addressing them, both in the classroom and in society.

A CASE IN POINT

It was in fact the theory of rational choice which got me into this. I have long had a problem teaching the economic definition of rationality which says that a rational decision is one which maximizes the satisfaction of the decision-maker. Being somewhat conservative I hesitated to fly in the face of standard economic theory; but finally one day in class after we had tossed around the concept of rationality and arrived at the reverse maxim that whatever maximized our satisfaction was therefore rational, I said, "Does anyone else have a problem with this?"

"Well," one student said, "it depends on your perspective. The last beer I drank last night *must* have maximized my satisfaction then, but this morning it appears I could have maximized better without it and maybe even the one before it. Maybe it's all relative."

"I think it's pretty selfish," said another. "I mean, I might do what I want but what if I cause problems for somebody else when I do it? Is that rational?"

"Not only that," said a third, "but I think it's also wasteful. I could spend all my money in the next two hours or less and have a great time, but where would that leave me tomorrow? Or we could burn up all the oil on earth in our generation, or pollute the water or cut down all the trees, but what about our kids and grandkids? I don't think that's very rational. In fact, according to that definition, you could never be non-rational, could you? Even an impulsive choice would be rational because you would never do anything that didn't make sense to you at the time, for whatever reason. Where does this theory come from?

Obviously I've paraphrased the discussion, but surfacing out of those student comments are moral and ethical questions. Starting on the search from whence the theory comes is the beginning of the journey toward understanding more about the assumptions underlying our cultural traditions and therefore understanding more about what we ourselves define as satisfactions.

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The theory or definition of rational choice is rooted in economic theory and directed at individual behavior. "Economists will not analyze the motivation of consumer behavior, claiming that that would be beyond their competence and that it would inevitably involve an improper judgment: that of judging one man's way of making the best of his life by another man's standards. As a result, the economist's approach to his subject tacitly assumes that consumers know what they are doing and are doing the best they can, so that the economist's only task is to see that the economy delivers what consumers want" (10, p.5). Since satisfaction for consumers is measured by the notion of utility, rational behavior can be assumed to be whatever maximizes utility on the part of the individual making the decisions. Rationality is therefore dependent on an assessment of the trade-offs between costs and benefits of possible consequences. Now while assessment of consequences is a necessary criterion in any rational approach to a question, maximization of satisfaction through utility is not always a sufficient determinant by which to measure outcomes. Not all questions can or should be resolved by maximizing utility through cost-benefit trade-offs. Applied in its narrowest sense, the economic standard for rationality does run the risk of being short-sighted, wasteful, self-indulgent--maybe even a bit non-sensical. Lester Thurow observes, "Whether individuals buy good X or good Y they are still rational individual utility maximizers. By definition, there is no such thing as an individual who does not maximize his utility. But if a theory can never be wrong, it has no content" (14, p. 218). Yet the theory of rational choice is viewed as a legitimate and workable economic concept about use of resources, and continues to be the standard against which most of consumer behavior is evaluated.

Family and consumer economists have made important contributions toward extending and interpreting the economic notion of rationality. The concepts of consumption levels and standards were developed and analyzed by both Hazel Kyrk and Elizabeth Hoyt (4). The notions of wealth, illth and nealth presented by Gordon and Lee represent an effort to classify levels of satisfaction, at least on an individual level (1). And the matrix developed by Ron Stampfl to show trade-offs between micro-sensibility and macro-responsibility in consumer decisions acknowledges consequential impacts of choice beyond the individual and offers a way to assess the responsibility level of specific choices (11). Although these contributions broaden the notion of rationality considerably, the shortcoming of family economics/consumption theory is that it is culture-centric. While it does attempt to consider values and their roles in choice and trade-off, it does so from an individual standpoint in the context of our culture--again, a carry-over from economic theory into consumption theory.

Now if it is not enough for us as consumers to be concerned about personal utility, satisfaction and efficiency, then what else should we consider? The questions of duty and obligation are being ignored, and as a result the rights of other individuals and cultures are being devalued in our own cultural consciousness. A brief review of moral theory is in order to broaden our perspectives.

Theories of ethics fall generally into two major categories: those which are teleological and advocate behavior based on goal-oriented rules, sometimes referred to as consequential; and those which are deontological or governed by duty-oriented rules, referred to at times as non-consequential. Utilitarianism is thought by many to be the prevailing ethical theory providing guidance in the U.S. today, and it is most often associated with the 19th century British philosopher, John Stuart Mill. Utilitarianism is a teleological theory which grows out of the economic theory of rational choice, for as Rawls observes, utilitarianism is simply the extension of the notion of individual rationality to the society at large. Rationality in its narrowest sense (standard in economic theory) is to take the most effective means to maximize given ends. For example, each person in attempting to achieve goals is free to balance his own losses against his own gains. He may very well choose to impose a sacrifice on himself now in order to realize a greater advantage later. A person is motivated by and acts to achieve his own greatest good, particularly when others do not seem to be affected by his decisions. Now utilitarianism asks, if these notions of rationality are accepted as proper and admired in an individual person, why shouldn't a society act on exactly the same principles applied to a group of persons rather than just one person? Thus, just as the well-being of a person is constructed from the series of satisfactions acquired through his rational behavior, so the well-being of a society is similarly constructed according to utilitarianism. If the principle for an individual is to advance as far as possible his own welfare, the corresponding principle for the society would be to advance as far as possible the welfare of the group. And just as an individual balances the costs and benefits of competing desires, so a society can balance satisfactions and dissatisfactions among various individuals. The principle of choice for a society is simply an extension and enlargement of the principle of choice for one person. "By this logic, then, one arrives at the principle of utility in a natural way: a society is properly arranged when its institutions maximize the net balance of satisfaction." (8, p. 23-24). However, in order to make this conception of society work, the interests of all persons have somehow to be consolidated into one. The rational social decision thus depends largely on efficient and effective administration, and as a result utilitarianism cannot and does not take seriously the distinction between individuals. For a utilitarian the rightness or morality of an act is judged by its consequence. If the goal has been achieved (increase in aggregate satisfaction or utility), then the right thing was done.

I have said that the United States is primarily a utilitarian society, measuring social success largely by aggregate economic consequence. The goal could be described as the achievement of aggregate satisfaction through the industrial efficiencies of a free growth economy, and therefore the right thing to do is whatever will bring about increased utility in the aggregate. The emphasis on economic growth and on material gain as the "good" throughout the industrial era has led naturally to a use of the Gross National Product and other national economic indicators as measurements of aggregate satisfaction, the assumption being that more is better. However, because utilitarianism by definition is concerned only with maximizing utility and not with how the utility gained is to be distributed, utilitarianism deemphasizes questions of distributive justice and offers no rules for eliminating dissatisfactions created by unequal distributions of social benefits. (In the U.S. we have believed that if enough can be produced through growth, eventually it will be distributed, either directly or through transfer or trickle-down, so that all will enjoy living levels of sufficiency and decency.) So problems of unequal distribution are viewed by utilitarians as unfortunate but sometimes necessary side-effects brought about by efforts to obtain the larger good, and a utilitarian society is therefore susceptible to injustice, not by intent but by design.

On the occasion of the fiftieth anniversary of Consumer's Union, Rhoda Karpatkin, Executive Director, offered several observations about current consumer issues in her address "Changing Issues, Changing Agendas: Winning for the Consumer in the Next 50 Years" (Karpatkin 1986). Three emerging agenda items she identified and discussed in some detail were (1) the consumer's right to be protected from hazardous technologies and the toxic substances associated with them; (2) corporate crime; and (3) poverty. In her summary she enumerated characteristics which these three issues have in common:

1) They enlarge and redefine the more traditional consumer agenda.
2) They are among the most pressing national issues at this time.
3) They are complex.
4) They are health and safety related issues.
5) They are global.

She might have added a sixth: They are all questions of justice. If one thinks about these items and their common characteristics, and relates them to the larger issues of economic disillusionment and global citizenship, it becomes clear that a utilitarian moral code cannot consistently derive solutions for these problems because there is no motivation to do so. A utilitarian will weigh these costs (hazards, corruption, poverty) against the benefits derived from their existence in particular situations,and there will be times when such risks and undesirable consequences will be allowed to exist for the greater good of the aggregate utility. Therefore, solutions to these problems will more likely come from a deontological ethical viewpoint--one which responds out of duty and respect for individual human circumstances. For in a deontological code, the right takes precedence over satisfaction, and inalienable human rights cannot be traded off for aggregate economic utility in a cost-benefit analysis.

Deontological ethical theory is most often associated with the work of the eighteenth-century German philosopher Immanuel Kant and is exemplified by his famous "categorical imperative": "Act only according to that maxim by which you can at the same time will that it should become a universal law" (2, p. 39). The basic premise is that we have a duty to respect the lives and autonomy of other individual humans, just as we ourselves wish for respect and autonomy. We are to treat others as ends in themselves and never solely as means to someone else's ends or in ways to which they would never willingly consent. Kant's theory is sometimes referred to as non-consequential in that the goodness of the action is not measured by its outcome but rather by its intent. When a person behaves according to moral rules, Kant considers that person to have an autonomous will, capable of governing himself or herself according to moral principles. Kant asserts that considerations of consequences--of utility or self-interest--are important but secondary, for the moral worth of a person's action depends on the moral acceptability--the rightness--of the rule from which that person acts. For example, if a public servant tells the truth about a scandal only because he fears the consequences if he is found out in a cover-up, and not out of the duty to tell the truth, he has acted rightly but deserves no moral credit for doing so. His will to tell the truth is based on an invalid rule.

What deontological principles can help us address the shortcomings of economic rationality and the corresponding inherent injustices of utilitarianism? And are they binding on us as consumers? Actually, most consumer issues are questions of distributive justice. Persons who are dissatisfied with their lot are obviously unhappy with their share of the benefits of social cooperation--for one reason or another, they perceive that they do not have enough of something in order to feel satisfied with their position. On a global scale, the moral issue shapes up along lines of economic justice--some nations and peoples in the world have more than they need; others have considerably less than they need. As well, because of interdependencies which are not well understood, in realizing our own satisfactions we may very well be unjustly shortchanging someone else unknowingly and unintentionally. John Rawls's book, A Theory of Justice, provides rich guidance here, for in it he has undertaken a major reanalysis of the ethical bases of justice. Rawls states that one aim of his theory of justice has been to give an account of justice "that is both superior to utilitarianism and a more adequate basis for a democratic society" (6, p. 94).

"Justice is the first virtue of social institutions, as truth is of systems of thought" (8, p. 3). Rawls's theory is much like the theory of consumer sovereignty in that it describes the criteria which would have to exist if the ideal of justice were to be obtained. He wants to let us see how rational people would order their society if they had to choose their policies in collaboration with each other and out of equal consideration for the lot of each person under conditions of fairness and in a well-ordered society. (He refers to this situation as the original position.) "In order to see this he invites us to go through a thought experiment which might be restaged in this way. . . A group of people set off on an interstellar voyage to colonise an uninhabited star which is similar to earth in its natural conditions. They have to decide in the course of the voyage on what social policy to implement, one which will yield a feudal or democratic society, a liberal or socialist one. However an important feature of their decision situation is that, while they know that human nature will remain the same in the star they are visiting, no one can be sure that on stepping off the space-ship he will not change in shape or sex, age or interest, intelligence or ability, and so on. What social policy would such a group come to adopt? Rawls's book is a careful attempt to work out a detailed and reasoned answer to this question. . . The original position, Rawls suggests, enables the theorist to step outside the limits of his place and time in history. It gives him a voice to speak for those in different cultures, revealing the structure of the just society" (5, p. 100).

As a result of his considered judgment on the relative merits of various competing perspectives on justice, and primarily to utilitarianism as the prevailing mode of thought in the U.S. today, Rawls arrives at two principles which he sets forth as those to which a person in the original position would agree. His theory is thus a form of contract theory representing an agreement which would be entered into and publicly acknowledged by rational persons in a well-defined initial situation. The two principles read as follows:

1. Each person has an equal right to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties for all.
2. If social and economic inequalities are allowed to exist they must meet two conditions: they must be (a) to the greatest expected benefit of the least advantaged (the maximin criterion); and (b) attached to offices and positions open to all under conditions of fair equality of opportunity (6, p. 95).

Together the two principles address the major components of justice--the notion of just deserts based on rights, and the notion of equality as it refers to distribution. The first principle above is to take priority over the second, reflecting the deontological viewpoint that the concept of right is prior to that of the good. It therefore is impossible for a person to trade off a basic liberty for a more satisfying distribution of social benefits, and rights secured by justice are not subject to political bargaining. The two are not connected. Interests which would override the priority of justice therefore have no value. As Rawls observes, it would seem that the principle of utility is incompatible with the notion of social cooperation among equals for mutual advantage. If principles of justice are thought of as arising out of an original agreement in a situation of fairness, it seems unlikely that persons who view themselves as equals would agree to a principle which may require lesser life prospects for some simply for the sake of a greater sum of advantages enjoyed by others (8, p. 14).

The second principle of justice stated above is referred to by Rawls as the difference principle. This principle acknowledges that although one might suppose that the ideal distribution would be such that everyone would have an equal share of primary goods, in fact there are differences which do exist and perhaps ought to exist. These differences often relate to organizational requirements and economic efficiencies which further the well-being of all in the society. Therefore, Rawls assumes that the basic structure of society should allow these differences as long as 1) they improve everyone's situation, including the least advantaged in the society, and 2) the inequalities are consistent with the claims of fair opportunity and equal liberty. Those who somehow gain more must do so in ways which are justifiable to those who have gained least.

On the surface the difference principle may appear to be biased toward those who are least favored. The intent is simply that inequalities which are allowed to exist must make a functional contribution to those least well off. The assumption is that those who are better off have generally been favored by social and natural contingencies (luck, cultural or status advantages acquired by birth, etc.) and thus have already been rewarded by those advantages which are many times accidental, and that the difference principle is thus appropriate for regulating the system of inequalities which exists.

As Rawls states, the overall question is: by what criterion is a democratic society to organize co-operation and arrange the system of entitlements that encourages and rewards productive efforts? (8). His theory of justice attempts to provide that criterion. It accounts for the accidents of birth and fortune, the priority of individual natural rights and liberties, and the claims between generations. It also acknowledges the necessity for certain inequalities while still providing direction through principles which insure the most fair distribution possible of the benefits and burdens of social cooperation. For purposes of his argument and reasoning Rawls describes his theory as a social theory, macro rather than micro in its application. He intends the focus of his model to be the background, the environment in which individual cases arise and must be decided. However, his model is not without merit as a guide for individuals attempting to decide a just course of action, for it describes the context, order and direction necessary for justice to be realized. Just as, according to the theory of consumer sovereignty, individual consumer decisions have the aggregate potential to determine the character of the market, so, according to the theory of justice, individual moral acts have the aggregate potential to determine the moral character of the society. Either way the responsibility for the achievement of the desired social ends rests with the individual actor in society in collaboration with other individual actors.

I see Rawls's theory as being somewhat parallel to the theory of consumer sovereignty in that it describes the ideal conditions for justice and outlines the principles necessary for the achieving and maintaining of those conditions, just as the theory of consumer sovereignty describes the conditions necessary for consumers to direct the market. Now the theory of consumer sovereignty is not understood to have imbedded in it the force of obligation or duty. However, with regard to justice, Rawls states that the natural duty of justice requires us to support and to comply with just institutions that apply to us, and to further just arrangements not yet established, at least when this can be done without too much cost to ourselves (8, p. 115). A question thus arises: since consumer decisions are decisions about resource use and thus impact economic distribution both directly and indirectly, could it be said that the duties of justice are indeed imbedded in the theory of consumer sovereignty? That we, as consumers in a rich society, have a duty to exercise sovereignty in ways which will further economic justice? If so, it certainly has implications for consumer education. For when consumer education curricula are limited by strict allegiance to narrow interpretations of economic theory, micro decision rules will continue to be taught which emphasize personal utility as the major criterion for consumer satisfaction. To that extent as well, the potential exists for consumer education to advocate self-serving behavior which is culture-bound, ideological and narrow in scope, and quite inappropriate as a decision model for consumers of our time.

ETHICS IN THE CONSUMER EDUCATION CLASSROOM

Applied ethics is defined as moral inquiry directed to making actual choices in moral conflicts. Because of its concern with concrete human problems, applied ethics is of necessity and by definition interdisciplinary (13). I therefore submit that ethical inquiry is especially appropriate in the consumer education classroom. Many if not most consumer issues are ethical issues and can be viewed and analyzed as such by students. Some examples include questions of paternalism in the professions or on the part of government in aggressive consumer safety campaigns. As well, technology has long been a consumer issue having ethical implications. An example prevalent today is medical technology, not only on such issues as medical research, genetic manipulation or euthanasia, but also on questions of quality of life, heroic measures and concomitant economic impacts on families. A third issue centers on legal verses moral questions relating to advertising, corporate crime, hazardous substances and hazardous waste. And of course, the looming social questions mentioned earlier--environmental pollution, resource depletion, intergenerational tradeoffs, effects of individual consumption upon others, global and domestic poverty--are all ethical issues and more particularly questions of justice. We must find a way to address and sort out these problems in the classroom. Otherwise we run the risk of communicating to our students that these threats to our satisfaction are either not important, or that they are too huge, too complex, and too diffuse to be solvable. Those students will carry one or the other conclusion with them to their own real world and they won't try to resolve those issues, either. Worse, they won't even see them as issues in which they might have some personal responsibility. It is critical today to establish with students the awareness that choices about resource use are not morally up in the air.

In concluding her assessment of consumer education concepts Robinson suggests that the content for consumer education is fairly standard and well-understood, and that persons teaching consumer education "are not likely to discover something dramatically new to revolutionize the ways in which consumers make choices" (9, p. 20). Injecting a dose of philosophy into consumer education may not be dramatically new or revolutionary in itself, but when combined with the tried and true consumer education concepts it does offer new ways of looking at the issues and has provided for me a breath of fresh air and new excitement. For against a larger moral landscape, notions of benefit-cost tradeoffs, opportunity costs and search costs take on a whole new dimension. (All of these notions deal with tradeoffs in consequences. Are there times when certain principles of duty ought to be followed regardless of the individual consequences?) If economic justice is seen as an issue, discussions about government intervention, taxation and charity are couched in a differenct context. And when one realizes that the collective impact of individual consumer decicions not only drives the American market but also influences international policy and has the potential to create situations of life and death for people elsewhere on the globe, the theories of consumer sovereignty and consumer rationality take on new importance. For when questions of individual moral responsibility arise, our understanding of consumer responsibilities has to expand beyond the usual concepts of good manners in the market or simple observation of law.

With the simultaneous impacts of sophisticated communications technology, multinational corporations, and the information age there is a continuing need for consumer information, but for different kinds of information. It very well may be that we still need to be concerned about the labor conditions under which products are produced for sale, but in a global context. We need to know where products are coming from and what it costs people in other countries to produce the imported magnificence of the American market. We need to know more about international markets and consumption so we can judge the potential and likely effects of our decisions on other nations and peoples. We need to know which companies are acting responsibly both domestically and internationally. We especially need to get in better touch with ourselves. It is important that we know what it is that we need for a high quality life while still realizing our obligations to other people who share our time and space on this earth, or to those who will come later. Research efforts are important in all these areas.

We are seeing something of a backlash today against moral relativity in the resurgence ot interest in ethics education. And because consumer decisions and behaviors lend themselves so well to a variety of questions about moral action, courses in consumer education are natural vehicles for the study of applied ethics. Over the years as I have looked at consumer education curricula, attended meetings, and read the literature, I continue to find most of the focus on "business as usual", on helping persons learn to function more effectively for future roles as individual consumers in an affluent, mass-consumption, industrial-age economy. Few seem to question whether indeed we do or we should or we will continue to live in an affluent, mass-consumption, industrial age economy. To me, much of the education effort aimed at consumers has seemed to be nicely detailed but too small, and sometimes I share Fred Wilhelms fear that, "with exceptions all too rare, about all that is being taught is at the lowest cognitive level of consumer knowledge and skill" (15, p. 28). If we start asking bigger questions in consumer education, we will be viewed by others as having something to say. For as Roger Swagler said so well, "With affluence, consumption becomes intimately bound up with the culture itself; sovereignty in one requires sovereignty in the other. If it is true that consumers have lost their ability to direct production, it is also true that consumers have lost control over their culture" (12, p. 168).

Not long ago an acquaintance asked me what I had done while recently on sabbatical. When I told her that I was working on a book on the ethical implications of consumer behavior, she responded enthusiastically, "Oh, ethics seems to be a real trendy topic right now." I'm not sure whether I hope she's right or I hope she's wrong. I hope she's right that there is a movement across the land which validates the importance of grounding and understanding our moral relationships with each other. I hope she's wrong that it's trendy. I hope that in years to come all students will gain a better understanding of their individual responsibilities toward each other, both in attending to duty and in the maximizing of personal satisfactions.

REFERENCES

1. Gordon, Leland J. and Stewart M. Lee. Economics for Consumers. 6th ed. New York: D. Van Nostrand Co., 1972.

2. Kant, Immanuel. Foundations of the Metaphysics of Morals. Translated by L. Beck. Indianapolis: Bobbs-Merrill Educational Publishing, 1959. (Originally published, 1785).

3. Karpatkin, Rhoda. "Changing Issues, Changing Agendas: Winning for the Consumer in the Next 50 Years." Proceedings, American Council on Consumer Interests, 1986. pp. 1-7.

4. Magrabi, Frances. "Establishment of Family Economics as a Conceptual Field." Edited by Marjorie East and Joan Thomson. Definitive Themes in Home Economics and their Impact on Families, 1909-1984, Washington, D.C.: American Home Economics Association, 1984. pp. 45-50.

5. Pettit, Philip. "The Importance of Reading Rawls." Cambridge Review, February, 1975. pp. 100-103.

6. Rawls, John. "A Kantian Conception of Equality" Cambridge Review, February, 1975. pp. 94-99.

7. ________. "Reply to Alexander and Musgrave" Quarterly Journal of Economics 88 (November, 1974): 633-655.

8. ________. A Theory of Justice. Cambridge, MA.: Harvard University Press, 1971.

9. Robinson, Jean. "Content of College Courses in Consumer Education." Paper presented at International Conference on Research in the Consumer Interests, Racine, Wisconsin, August 13-16, 1986.

10. Skitovsky, Tibor. The Joyless Economy. New York: Oxford University Press, 1976.

11. Stampfl, Ronald. "Consumer Dilemma: Micro-sensible versus Macro-responsible." J.C. Penney Forum, Spring/Summer, 1981. pp. 14-15.

12. Swagler, Roger. Consumers and the Market. 2nd ed. Lexington, MA.: D.C. Heath and Company, 1979.

13. The Teaching of Ethics in Higher Education: A Report by the Hastings Center. Hastings-on-Hudson, N.Y.: The Hastings Center, 1980.

14. Thurow, Lester C. Dangerous Currents. New York: Random House, Inc., 1983.

15. Wilhelms, Fred T. "Consumer Education: A Key to Quality of Life." J.C. Penney Forum, Spring/Summer 1980. pp. 27-29.

WHAT NEXT FOR CONSUMER EDUCATION RESEARCH?
A LOOK AT THE WINGSPREAD CONFERENCE PROPOSALS

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RESEARCH AND THE FIELD OF CONSUMER EDUCATION

The importance of research in developing any field is hard to understate. There must be well documented, and usually, repeatable observations in order to have growth over time and throughout the network of policy makers, teachers and program operators. To date we have relied heavily on contributions from other fields - education, consumer behavior, marketing and the basic disciplines on which these fields build. This isn't bad, but it isn't enough for us to simply borrow and apply. We must have our own body of concepts and data that allows us to improve our selection, and application and, in time, to direct the efforts of the contributors inside and outside our field. Consequently, the ACCI consumer education committee has made research a major priority. Having a consumer education section as part of the Wingspread Conference fitted our priorities, and hopefully, this conference session will provide an agenda and some encouragement for all of us in this important area.

THE VALUE OF GOOD THEORIES

Lest we run off to collect data without doing our homework, I want to indicate that we need to make our theories, concepts and models explicit to facilitate building programs of research rather than simply doing "ad hoc" research. We need for theory what the Classification of Concepts is for the content of consumer education. Since my instructions were to speak to the things that we can do rather than dreaming of what we would like to do, I want to defend this call for better theory development by saying that without explicit theory development as a high priority most of what we do in research is likely to be useless for the long term development in the field. Theory development is a major ingredient in systematic programs of research.

THE WINGSPREAD PROPOSALS

Having implied that the Classification of Concepts has done its job to define consumer education, I need to quickly point out that one of the papers explicitly called for a definition of the scope and content of consumer education as it applies to various target groups. Next year, in Chicago, the consumer education committee will present a major review of the Classification of Concepts to see how well it has done various jobs. I suspect we will find that the Classification has done its job at a very general level and that the key concern for definition expressed by Hayden Green at Wingspread may reflect an absence of agreed upon minimum levels of knowledge, skill or behavior or a need to relate content to stages of development. If these areas of policy making and research are part of his proposal, I fully agree. Generally speaking, the content of any field is a function of social policy which prescribes the level of performance citizens are expected to exhibit. (For example, we define as socially desirable a pride in our heritage and therefore a certain content in history or literature.) Once content is defined we can do research on how to expose people to this content.

A second, related area, again articulated by Hayden Green, was the development of research methods and models by which we can measure the effects of consumer education. Again, I fully agree. There is some literature on this topic. There have been some efforts to measure knowledge, behavior or attitude change. There have been lessons learned about cultural biases, levels of development from pre-school to high school, etc. We can address this area with a running start. I would like to see a special issue of JCA pull this area together as a way of drawing a base line from which many can work. Without strength in this area, we can't expect to improve the work of professionals in consumer education or to demonstrate to anyone's satisfaction a program in consumer education makes it possible for things to be different.

A third area that was noted in more than one paper, but not particularly developed in any way was the need to understand the process by which people learn to be consumers. With this knowledge we can design more effective programs and materials, and we can determine appropriate roles for the various participants in the consumer education system. It is the last point, determining appropriate roles, that was either explicitly or implicitly raised in all the papers. It is the understanding of the process which is the research priority. In this regard, the five papers to which I am refering were invited from various groups or sectors (business, government, schools, etc.). If we note that consumers learn in four situations (socializing relationships, schools, self-guided learning projects and shopping experiences) we can see that Wingspread drew comments on schools and on support for the consumer directed learning projects that arise when consumers perceive a need. Clearly, understanding the process by which people learn to be consumers requires a study of all four areas -

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particularly the process of socialization. All these are big topics and warrant better articulation than I can give here. Suffice it to say that I agree with these priorities both as an academic and as one who sometimes gets involved with policy and program development. Getting very far with an understanding of the process by which consumers learn consuming is a long term objective. The sooner we mount a major research thrust, the better.

There is a final comment I think needs to be made about the Wingspread papers. I was amazed when I reviewed the five papers and realized that only one of the five gave any extensive treatment of research needs, accomplishments or directions. At a well financed, carefully organized conference on research this is very surprising. It made me wonder if there needs to be a more concerted effort to simply identify the research that has been done, who has done it and where it is leading in terms of future research and application. We may have given such prominence to policy and program considerations that we have failed to draw attention to the research base we have to build on. If so, this needs correction to give more visibility to this part of our field. More on this later.

THE REALITIES OF RESEARCH IN CONSUMER EDUCATION

A reality of research in almost any field is the lack of funding sources that will support programs of research. Therefore, we must identify those things we can do which lead to programatic research but which demonstrate value as stand alone projects of interest to the agencies that will fund such projects for their short run contributions.

A second reality of research involving consumer behavior is the relatively young stage of development for research methods. Much has been accomplished in the 20 years since we began to see good basic texts on consumer behavior but much of this development has been in the area of consumer information which begs the questions we want to study about consumer education. The study of child development has some things to offer as does the field of adult learning, but whatever we do next, we will have to be aware of methodological weaknesses at this stage of development for both consumer education and those fields from which we borrow.

A final reality is that most of us got into consumer education as teachers or influencers of consumers, not as researchers. We don't have a tradition of research as a priority. We don't have a pool of tried and established research centers. A look at the Wingspread program, assuming it reflects the state of the art in consumer education research, reveals a much earlier stage of development than other fields of research in the consumer interest. The difference is even more dramatic when we compare the consumer education sections with research sections at meetings such as the ACR, CS/D, or other consumer research oriented groups. Or consider that at the Fort Worth meetings one of the sessions was to present a new agenda for consumer education. None of the items on the agenda (which had many good items) addressed the need for research into the fundamental nature of consumer education. Whatever goes ahead next must facilitate the best use of the scarce leadership and experience we have. We also must promote consumer education as an important area with interesting researchable topics. We need more strong researchers in consumer education.

WHAT NEXT?

At this point I should be held responsible for a list of priorities which build on the proposals from Wingspread and fit the constraints I have noted. I will do that by suggesting a list of topics on which I would like to see reports either at a future ACCI meeting or in the JCA, JCP or one of the education journals (particularly including the Journal of Consumer Education).

> Measures of Consumer Competence: Theory and Application (building on Crosby and Taylor, Dickinson and Shaver, Dlabay, Duff, Moran and Vosburgh, and others)
>
> Consumer Satisfaction, Consumer Well-being and Other Criteria for Measuring the Health of the Marketplace (building on Olander, Wickstrom, Woodruff, Cadott and Jenkins, Church and Surpenant and others)
>
> Measures of the Contribution of Consumer Education to Consumer Satisfaction, Well-being or Other Criteria for Measuring the Health of the Marketplace (building on Langrehr, and those listed above as well as others)
>
> An Analysis of the Probability of Undertaking a Consumer Education Learning Project: the Application of the COR Model of Adult Learning (building on Cross, Tough and others)
>
> The Limits to Consumer Education: Variables that Mitigate Against the Affects of Consumer Education (building on Cross, Langrehr, TARP and others)
>
> The Development and Application of Needs Assessment Techniques to Consumer Education (building on Kaufman and English, and others)
>
> Toward an Understanding of the Role of Socialization in Consumer Education (building on Kuhlman, Moschis and Moore, Langrehr, Mayer and Belk and others)
>
> Is Consumer Education as Field Defined by Content, Application, Process or Some Combination? A Search for Taxonomy of Approaches to Consumer Education

Toward a Marketplace Theory of Consumer Education: A Closer Look at Shopping Experience as Education (with or without assistance from POP education materials)

Stage in Life-Cycle and Consumer Education Requirements and Limitations (building on Stampfl and the large body of literature on competencies and interests for each stage)

Of course, all these broad topic areas need to be narrowed, the terms operationalized, the extraneous variables dealt with and all the other things that make research more concrete. However, consumer education has a fledgling body of research literature which needs to be systematically organized, widely known, carefully assessed and enthusiastically built upon. ACCI members and as an organization undoubtedly has a major role to play in all these activities.

ENGEL CURVE ESTIMATION FOR A COMPLETE SYSTEM OF AGGREGATE EXPENDITURE COMPONENTS

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ABSTRACT

This study analyzed the relationship between the Engel Curve and the complete demand systems and demonstrated that the linear form can be derived from several plausible complete demand systems. Furthermore, the inclusion of the demographic variables in the additive fashion can be justified theoretically. The study used the Box-Cox general form to validate the linear form which is theoretically plausible and the semi-log form which is empirically popular. The empirical study dealth with the estimation of the Engel functions for eight aggregate expenditure components. The results strongly suggest that the validity of various functional forms need to be assessed from the standpoint of a complete demand system. The empirical results further show that both the Box-Cox and linear forms are superior to the semi-log form.

INTRODUCTION

The purpose of this paper is to present the econometric results of estimating Engel functions for a complete system of aggregate expenditure components. The study focuses on the following aspects of the study of income-consumption relationships: (1) identification of the theoretical basis for incorporating the demographic and socioeconomic variables in the Engel function, and (2) testing of appropriate functional forms using the Box-Cox transformation. We will undertake these tasks using the framework of a complete demand system.

The main interest in estimating an Engel function is to obtain an estimate of the expenditure elasticity of consumption or demand. Expenditure elasticities provide very useful information about consumers' behavior and budget allocation. This information may be used to analyze the impacts of government income transfer or assistance programs. Knowledge about expenditure elasticities is also extremely useful to the private sector in analyzing relative market strength when household incomes change.

The classical work of Prais and Houthakker [12] remains one of the best references in the study of Engel functions. Despite the numerous studies done in the three decades since Prais and Houthakker published their work, the issue of appropriate functional forms remains unresolved. However, there have been several important developments in this area. One involves the methodology of incorporating the demographic and socioeconomic variables in Engel functions. These variables may be termed household characteristics. While it is legitimate to consider these characteristics in the Engel function, approaches for incorporating these variables are often ad hoc. Typically, these variables are simply added as explanatory variables and their forms follow whatever functional form is being used. If these are dummy variables then no transformations are made. This approach has been commonly applied to a single expenditure item or a selected group of expenditures such as food. Examples of this type of study related to food include Blaylock and Smallwood [4], Adrian and Daniel [1], Davis [7], and Basiotis, et al. [2].

The other significant area of development deals with modeling a complete demand system. The classical model is, of course, the linear expenditure system (LES). More recently developed models include the quadratic expenditure system (QES), the almost ideal demand system (AIDS), the CES demand system, the basic translog demand system (BTL), the generalized translog demand system (GTL), and many of their variations. These complete demand systems can be used to derive the specific functional forms used for the Engel curve analysis.

The recent studies by Pollak and Wales [10, 11] are most relevant to the present study. Specifically, Pollak and Wales developed and compared various methods for incorporating demographic variables in a complete demand system. In this paper we will use these methods for incorporating demographic and other socioeconomic variables in Engel functions.

Our study also takes into account other economic and statistical considerations. The Box-Cox transformation has been widely used for testing the appropriateness of functional forms. Examples of its application in the food demand area include Chang [6] and Blanciforti, et al. [3]. In this study, we also use the Box-Cox transformation for testing the functional forms.

The empirical application addresses the estimation of Engel functions with demographic and socioeconomic variables for a complete system of aggregate expenditure components. Specifically, eight expenditure categories are defined to exhaust the total expenditure. The data base used is the 1980-81 Consumer Expenditure Survey conducted by the Bureau of Labor Statistics.

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FUNCTIONAL FORMS

The fundamental Engel relationship can be expressed as

$$y_i = h^i\,(\mu),\ i = 1,\ldots,g$$

where y_i may be the expenditure $(X_i P_i)$ or expenditure share (W_i) and μ may be the household income or total expenditure. In the literature many functional forms have been considered and tested. The most commonly tested forms include linear, double-log, semi-log, hyperbolic, and their variations.[3]

Since the Engel function expresses the effects of income on budget allocation among groups of goods and services holding prices of commodities constant, the only theoretical condition relevant for the analysis is the adding-up restriction. This restriction states that if we sum up all expenditures, the sum should be equal to total expenditure (or income). Using this criterion, the linear form would satisfy this budget identity while the double-log and the semi-log would not.

Since a demand function reduces to an Engel function when price effects are assumed constant, we should be able to derive the Engel function directly from a complete demand system. Specifically, each complete demand system suggests a specific form for the Engel relationship. As indicated earlier, many complete demand systems have been developed and estimated. It would be important to know whether these commonly used functional forms correspond to any of the well known complete demand systems. In order to derive the Engel function from a complete demand system, we can treat all price terms as constant. The results of this investigation show that (1) the linear form can be derived from the LES, CES, and the generalized CES demand systems, (2) the QES, BTL, GTL generate specific nonlinear functional forms which differ from those commonly used in Engel curve estimation, (3) the AIDS would generate a semi-log form using expenditure share as the dependent variable, (4) the double-log and semi-log (using the expenditure as the dependent variable) cannot be derived from the theoretically plausible demand systems.

Therefore among the linear, semi-log, and double-log forms, the first remains the most plausible in terms of its theoretical foundation. Specifically, let us consider the generalized CES demand system which is expressed as

$$\text{(1)}\quad W_i = \frac{P_i b_i}{\mu} + \frac{a_i^c P_i^{1-c}}{\Sigma a_k^c P_k^{1-c}}\left[1 - \frac{\Sigma P_k b_k}{\mu}\right],\ \Sigma a_k = 1$$

where a_is, b_i's and c are parameters.

If we treat prices as constants, then Eq. (1) is reduced to

$$\text{(2)}\quad W_i = \frac{k'}{\mu} + k''\left(1 - \frac{k'''}{\mu}\right)$$

or

$$\text{(3)}\quad P_i X_i = k' + k''\mu - k''k''' = k + k''\mu$$

where k, k', k" and k"' are functions of the constant terms in Eq. (1).

Equation (3) is, of course, a linear Engel function between the expenditure for category i (i.e., $P_i X_i$) and the total expenditure.

The relationship to the plausible demand systems is not the only consideration in the Engel function specification. There are other important economic and statistical considerations. The various functional forms of the Engel function provide means for testing the marginal propensity to consume and income elasticity. The linear form implies (1) constant propensity to consume and (2) tendency to unitary income elasticity as income increases. The double-log form implies a constant income elasticity. On the other hand, the semi-log form implies that (1) the marginal propensity to consume varies inversely with income and, therefore, (2) income elasticity decreases as income increases. Thus, the semi-log form allows the same goods to be luxuries when income is low, and necessities when income is high. This property may be viewed as a reasonable characterization of many goods and services such as food. On statistical ground, double-log and semi-log have been found to have better statistical fit than linear and other functional forms. Consequently, double-log and semi-log forms remain the most popularly used benchmark functional forms for comparison in empirical studies.[4]

METHODS FOR INCORPORATING DEMOGRAPHIC VARIABLES

Demographic variables such as household size, age of household head, race or ethnicity are important determinants of household consumption. However, these variables were typically not included in the derivation of the theoretically plausible demand systems. If these variables are simply added into the demand system after it is derived, then one cannot be sure whether or not the original indirect or direct utility functions still hold.

Recently, Pollak and Wales [10, 11] suggested various procedures for incorporating such variables into empirical demand analysis. Demographic translating and demographic scaling are the two major procedures suggested. Under these procedures, parameters of the demand system are assumed to depend upon the demographic variables. Demographic translating introduces n "translation parameters," $d_i, \ldots d_n$, into each demand system with n goods and services. Suppose the original demand function is

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[3] See Prais and Houthakker [12], pp. 83-85.

[4] For example, see Kakwak and Podder [8].

$$Y_i = h^i(P_i, \mu).$$

The modified system with demographic translation is

$$(4) \quad Y_i = d_i + h^i(P, \mu - \Sigma \; P_k d_k)$$

The translation parameters, d_i, may be specified to be a linear function of the demographic variables N_r, as

$$(5) \quad d_i = \sum_r \delta_{ir} N_r$$

If the original demand system is generated by the indirect utility function $\Psi(P, \mu)$, then it can be shown that the modified system satisfies the first order conditions corresponding to the indirect utility function $\Psi(P, \mu - \Sigma P_k d_k)$.

Alternatively, demographic scaling introduces n "scaling factors" and replaces the original demand system by the following modified system:

$$(6) \quad Y_i = m_i h^i\,(P_1 m_1, \ldots, P_n m_n, \mu).$$

Therefore, only the m's depend upon the demographic variables and they may be expressed as a linear function as

$$m_i = 1 + \sum_r c_{ir} N_r$$

Again if the original demand function is plausible, the modified system is also.

Pollak and Wales applied these two procedures to the QES, BTL, and GTL demand systems. Their results show that demographic translation results in a lower likelihood value than demographic scaling. However, the significance of these differences can not be formally tested. The demographic translating was recently applied by Kokoski [9].

Following Pollak and Wales, we can modify the Engel functions obtained from various theoretically plausible demand systems using the translating and scaling methods. The resulting Engel functions are highly nonlinear in demographic variables except those obtained from LES or generalized CES. Specifically, if we use the translation equation (4), the original generalized CES function in Eq. (3) can be rewritten as:

$$(7) \quad P_i X_i = d_i + k + k''\,(\mu - \Sigma P_k d_k)$$

$$= d_i + k + k''\mu - k'' \Sigma P_k d_k.$$

However since P_k's are treated as constants in the Engel function and d_i's are linear functions of demographic variables as expressed in (5), Eq. (7) can be reduced to:

$$(8) \quad P_i X_i = k + k''\mu + \Sigma\, k''_{ir} N_r$$

$$\text{where } k''_{ir} = \delta_{ir} - k'' \Sigma P_k \delta_{kr}$$

Eq. (8) is linear in demographic variables N_r.

BOX-COX TRANSFORMATION

The preceding analysis indicates that among the three commonly used linear, double-log, and semi-log forms, only the linear form can be derived from the theoretically plausible demand systems. Furthermore, it is theoretically plausible to include the demographic variables in the linear Engel function in the additive fashion. Both the double-log and semi-log are ad hoc functional forms. However, the semi-log form has a more plausible implication of income elasticity than both the linear and double-log specifications.

The Box-Cox transformation provides a functional form which contains linear, double-log, and semi-log as special cases. For this study, we would prefer semi-log over the double-log. Consequently, the following Box-Cox transformation is adopted:

$$(9) \quad P_{ij} X_{ij} = \alpha_o + \alpha_1 \mu^* + \sum_k \beta_k N^*_{kj} + \sum_l \gamma_l N_{lj}$$

$$+ \varepsilon_{ij} \; ; \; i = 1, .., g \; ; \; j = 1, \ldots, n$$

where N_{kj}'s are continous demographic variables, N_{lj}'s are dummy demographic variables, and ε_{ij} is the error term.

The variables with an asterisk are defined as

$$\mu^* = (\mu^\lambda - 1)/\lambda$$

$$N^*_{kj} = (N^\lambda_{kj} - 1)/\lambda$$

λ represents the transformation parameter to be estimated. If $\lambda = 1$, Eq. (9) is a linear form. If $\lambda = 0$, Eq. (9) is a semi-log form.

The income elasticity in (9) can be computed as

$$E_\mu = \alpha_1(\mu^\lambda / P_{ij} X_{ij})$$

A similar formula can be used for computing the elasticities with respect to other demographic variables.

Under the assumption that ε_i is normally and independently distributed with mean zero and variance^2, Box and Cox [5] show that, for a given λ, the maximized log likelihood of Eq. (9) is

$$(10) \quad L_{max}(\lambda) = (\tfrac{n}{2}) \log \hat{\sigma}^2(\lambda) + (\lambda - 1) \sum_j \log\,(P_{ij} X_{ij})$$

where $\hat{\sigma}^2(\lambda)$ is the estimated error variance of the regression. Maximization of (10) over the entire parameter space requires selection of alternative values of λ over a reasonable range and find the λ that maximizes (10). Box and Cox suggested using the likelihood ratio method to obtain the confidence internal for λ. Specifically, $2[L_{max}(\hat{\lambda}) - L_{max}(\lambda)]$ is approximately distributed as χ^2 with one degree

Table 1. Average Annual Expenditure of Urban Consumer Units, 1980-81

Expenditure Group	Expenditure	%
Food at Home	$2,411	14
Food Away from Home	813	5
Clothing	935	6
Housing	5,051	30
Transportation	3,454	20
Health Care Services	746	4
Entertainment	762	4
Education	219	1
Reading	117	1
Personal Care Services	158	1
Alcoholic Beverages	280	2
Tobacco	175	1
Insurance and Pensions	1,264	7
Miscellaneous	760	4
Total Expenditures	17,144	100

of freedom. Therefore, the $(1 - \alpha)$ confidence interval for λ can be obtained by finding the value of λ on either side of $\hat{\lambda}$ such that $L_{max}(\hat{\lambda}) - L_{max}(\lambda) = 1/2\ X_1^2(\alpha)$

DATA SOURCES

The empirical study is based on the 1980-81 Consumer Expenditure (CE) Survey conducted by the U.S. Bureau of Labor Statistics [13]. The CE survey consists of a quarterly interview survey and a diary survey. Only the interview survey data are used in the study.

The CE public use tape provides expenditure data on a quarterly basis. These quarterly data are aggregated to obtain the annual expenditure data used in this study. Note that the 1980-81 survey used household panels with 20% of the households rotating in and out each quarter. Therefore, four continuous quarters of data were not available for all households. Consequently, households without four continuous quarters of data during 1980-81 were excluded. The sample size for model estimation includes 3,005 households.

Table 1 shows the average annual expenditures of urban consumer units for 14 aggregate components estimated from the 1980-81 surveys. Among the most important expenditure categories are food at home, housing and transportation. Since there are many households with a zero expenditure for the minor expenditure components like education, reading and personal care services, the last seven expenditure components have been further aggregated into a category of "others". Therefore, there are eight expenditure components for empirical estimation.

ECONOMETRIC VARIABLES

The econometric variables include a set of continuous variables and a set of dummy variables. There are four continuous variables defined as:

Y_i = Expenditure of i th group (Dollars),
INCOME = Total expenditure (Dollars),
SIZE = Household size (Number of Persons),
AGE = Age of reference person.

The group expenditure, Y_i, is the dependent variable in the Engel function. Income is measured by the total expenditure. SIZE and AGE are two demographic variables.

Table 2 identifies the other demographic variables and household characteristics which are dummy variables. In each set of dummy variables, one is excluded from the regression equation. The excluded variable is identified in Table 4 as the base variable. One objective of this study is to estimate the impacts of these demographic and household characteristics on the expenditure pattern.

REGRESSION RESULTS

The empirical application entails the estimation of Eq. (9) for the eight expenditure groups. The maximum likelihood estimation is implemented by selecting a set of discrete values of λ. Since one specific purpose of the study is to validate the linear and semi-log form the special cases of the Box-Cox general form, we specify λ to be within -2.0 to 2.0 with an increment of 0.1. In addition to the Box-Cox general form, we also estimated the modified Engel function with linear and semi-log. The linear form corresponds to Eq. (8) while the semi-log form is derived from taking the logarithmic transformation for the continuous explanatory variables such as total expenditure in the right hand side of Eq. (8).

The regression results for the linear and semi-log form are not presented here. It was found that both sets of regression results are very similar in terms of the sign of the coefficients and the level of statistical significance. The linear form, however, has lower mean squared error (MSE) and higher R^2 for all expenditure groups. Therefore, the linear form has a better fit than the semi-log form, a somewhat surprising result as the opposite result has typically been found in previous studies.

Table 3 presents the regression results for the Box-Cox general form. R^2's are either higher or the same as those of the linear form. Improvements in fit are observed in the equations for food away from home, clothing, transportation, and others. In order to validate the linear and semi-log forms from the Box-Cox transformation, we can compute the 95% confidence interval for the estimated λ. These confidence intervals are also presented in Table 3. As one can see, the hypotheses of λ to be equal to 1.00 (for linear form) or zero (for semilog form) are all rejected at the 0.05 significance level for all expenditure groups except housing. It is interesting to note that the estimated λ's in most cases are closer to 1.00 than to zero. The largest deviation from either linear or semi-log forms occurred for the food away from home group.

Table 2. Definition of Dummy Variables

Strata	Symbol[a]	Definition
Race/ Ethnicity	HISP	Spanish
	AFRO	Afro-Blacks
	NAFR	Non Afro-Blacks
	OTHR	Others
	(WHIT)	Whites
Region	NE	Northeast region
	NC	North Central region
	WE	West region
	(SO)	South region
Marital Status	MAR	Married
	(SIN)	Single, Widowed, Divorced and Separated
Housing Tenure	RENT	Renters
	HOMT	Homeowner with Mortgage
	HNMT	Homeowner without Mortgage
	(OCUP)	Occupied without Cash Payment
Education	HIGH	High School (1-4 yrs.)
	COLL	College (1-4 yrs. and more)
	(ELEM)	Elementary School or less
Occupation	CLER	Clerical
	PROF	Professional & Managerial
	BWOR	Blue-Collar Workers
	(UNMP)	Unemployed, retired, students, etc.
Household Head	FHEAD	Female household head
	(MHEAD)	Male household head

[a] The variables in parentheses are "base" variables which are excluded in the regression equations.

Specifically, the estimated λ is 1.90 and the 95% confidence interval is (1.75, 2.05) which is far from either 1.00 or zero. These results suggest that the appropriate functional form for food away from home should be neither linear, nor semi-log. However, for the entire set of 8 expenditure groups, the statistical results would suggest that the linear form provides a much better approximation than semi-log for the Engel relationships based on statistical fit.

TABLE 3. Regression Results, Box-Cox Form

Variables/ Statistics	Food at Home	Food Away from Home	Housing	Clothing
CONSTANT	-362.67	448.05**	525.72	-55.50
INCOME	1.307**	0.000006**	0.27**	0.0036**
AGE	43.43**	0.0298	-20.00**	0.1018
SIZE	650.10**	-8.505**	-240.43**	11.851
HISP	116.83	-12.666	115.45	-67.53
AFRO	-163.39*	-117.977	170.96	193.55**
NAFR	-47.10	-185.30	235.09	144.73
OTHR	-29.87	-10.11	83.91	-40.27
NE	143.84**	64.06	350.16**	26.21
NC	-178.56**	43.01	239.73*	46.17
WE	-29.18	48.01	277.30*	-109.69**
MAR	105.21	-94.06*	-39.99	12.45
HIGH	17.86	157.31**	-286.93*	64.56
COLL	-169.92**	256.92**	125.79	125.31*
HOMT	-492.43**	-167.34	2062.94**	-122.59
HNMT	-514.78**	-87.06	1038.18**	-93.89
RENT	-414.06**	-186.77	1526.74**	-30.90
FHEAD	51.20	-196.02**	180.31	103.30*
CLER	71.63	147.73	-430.66**	150.36**
PROF	63.87	162.48**	-58.41	206.00**
BWOR	133.75*	41.21	-676.64**	58.44
λ	0.70	1.90	1.00	1.30
95% CI	(.58, .82)	(1.75, 2.05)	(.95, 1.05)	(1.18, 1.42)
$L_{max}(\lambda)$	-20690.12	-20069.86	-23192.30	-20121.09
R^2	.56	.45	.62	.48

Variables/ Statistics	Transportation	Health Care Services	Entertainment	Others
CONSTANT	-5186.40**	194.06	516.55**	-71.00
INCOME	42.61**	0.0006**	0.009**	0.002**
AGE	-30.83	2.651**	-2.653**	0.743
SIZE	-292.65**	-0.00	-4.44	-8.77
HISP	449.66	-38.44	-173.50	-392.50**
AFRO	-17.39	-38.86	-114.28	44.95
NAFR	-32.90	-128.30	1.29	128.83
OTHR	-50.25	4.58	72.87	-43.07
NE	-447.22**	153.07**	-18.27	22.65
NC	-10.57	-170.88**	122.60*	-102.99
WE	-115.03	-143.73**	97.46	-20.14
MAR	-99.03	179.33**	-218.70**	82.27
HIGH	-21.78	40.63	6.95	-8.68
COLL	-520.96**	89.10	90.00	16.29
HOMT	-799.64*	-181.29	-244.76	-57.30
HNMT	-228.19	-13.32	-212.18	58.26
RENT	-495.73	-150.71	-260.72	-41.68
FHEAD	14.19	-36.11	-209.61**	97.74
CLER	-172.88	-60.56	-123.71	359.89**
PROF	-394.97**	-136.52**	-30.58	215.72*
BWOR	412.76**	-211.67**	-40.56	222.68*
λ	0.50	1.40	1.20	1.40
95% CI	.47, .78)	(1.2, 1.7)	(1.03, 1.30)	(1.31, 1.55)
$L_{max}(\lambda)$	23628.90	-20143.58	-21142.67	-22176.55
R^2	.49	.26	.29	.36

*Significant at 5%
**Significant at 1%

The results in Table 3 show that demographic variables and household characteristics are important determinants for household expenditure patterns. Let us summarize here the most interesting results. First, age has a significant positive impact on the expenditures for food at home, and health care services while it has a significant negative impact on the expenditures for housing and entertainment. Second, household size has a significant positive impact on food at home but a negative impact on food away from home, housing, and transportation. Third, the results show that the Afro-American households spend significantly less for food at home and significantly more for clothing than white households. Fourth, households with college education spent significantly less for food at home and transportation, but more for food away from home, and clothing than those with only elementary and high school education. Finally, households in the Northeast tend to spend more for food at home, housing, and health care services but less for transportation than those in other regions.

The equation with the best fit is the one for housing ($R^2 = 0.62$). In this equation, most of the demographic and household characteristic variables are statistically significant except those for ethnicity/race, marriage, and sex of household head.

ESTIMATED INCOME ELASTICITIES

Table 4 presents the elasticity estimates using alternative functional forms. Since income elasticities are dependent upon both income (total expenditure) and individual expenditure for linear and Box-Cox, and are dependent upon individual expenditure for semi-log, it is important to know how these elasticities change at different levels of income. The three sets of

Table 4. Estimated Income Elasticities[a]

Expenditure Group	Total Sample[b]			Low Income Households[c]			High Income Households[a]		
	Box-Cox	Linear	Semi-log	Box-Cox	Linear	Semi-log	Box-Cox	Linear	Semi-log
Food at Home	0.44	0.40	0.42	0.42	0.29	0.70	0.46	0.50	0.30
Food away from home	0.79	1.40	1.32	0.46	1.55	3.41	1.18	1.20	0.69
Housing	0.86	0.88	0.90	0.78	0.78	1.77	0.90	0.92	0.54
Clothing	1.11	1.30	1.18	0.99	1.48	2.95	1.20	1.40	0.63
Transportation	1.44	1.22	1.35	2.98	1.75	4.15	0.98	1.09	0.70
Health Care Service	0.66	0.81	0.83	0.35	0.58	1.31	0.99	0.97	0.57
Entertainment	1.29	1.41	1.35	1.57	2.02	4.42	1.19	1.17	0.67
Others	1.14	1.30	1.23	0.88	1.44	3.00	1.26	1.21	0.66
Adding-up Condition	0.97	1.00	1.01	1.06	1.00	2.24	0.99	1.00	0.59

[a] Estimated at sample means

[b] The sample mean of income (total expenditure) is $17,755.

[c] Total expenditures in bottom 25 percentile. The sample mean of income is $8,066.

[d] Total expenditures in upper 75 percentile. The sample mean of income is $30,764.

income elasticities presented in Table 4 are for (1) total sample, (2) low income households (total expenditures in bottom 25 percentile), and (3) high income households (total expenditures in upper 75 percentile).

The results are striking. First of all, the estimated income elasticities are very similar when computed at the means of the total sample. There is only one exception and that is the estimates for the food away from home. Specifically, the estimate of 0.79 from the Box-Cox general form is considerably smaller than those obtained from either linear or semi-log. The Box-Cox form shows that food away from home is a necessity while both linear and semi-log show it to be a luxury. This is a significant finding because it differs so greatly from those obtained from linear and semi-log forms and those obtained from previous studies. Our estimates of income elasticities for food at home, as computed at the total sample means, are very similar among the three functional forms. They range from 0.40 to 0.44, implying a very inelastic demand with respect to income. These estimates of elasticities are considerably smaller than those for subgroups of food items estimated by Kokoski [9], using the 1980-81 CE-diary survey data. Therefore, this study suggests smaller income elasticities for both food at home and food away from home than suggested by estimates from previous studies.

The adding-up condition is used to validate the econometric results. It was found that the condition is almost satisfied with both Box-Cox and the semi-log form when elasticities are computed using the total sample means. (The linear form satisfies this condition automatically). Therefore, if one looks at only the first set of elasticity estimates (for the total sample), the results are not very discriminating, therefore, it is not easy to make a choice.

The results show significant differences when income elasticities are estimated for different income groups. Consider, for example, the food away from home. The Box-Cox form shows that the income elasticity is 0.46 for low income households and is 1.18 (elastic) for high income households. On the other hand, both linear and semi-log show that income elasticities decline from low income households to high income households. Furthermore, the semi-log form produces an inelastic demand (0.69) for high income households. The results from linear and semi-log may be perceived to be a more logical Engel relationship than those of Box-Cox when looking at food away from home in isolation. However, the validity of these estimates must be evaluated from the standpoint of a complete demand system.

Further examination of the complete sets of income elasticities reveals several interesting findings. First, the semi-log form consistently produces a smaller income elasticity for low income households as compared to high income households for all expenditure groups. Second, both the Box-Cox and the linear form show mixed changes, i.e. some elasticities became larger while others became smaller. These patterns of change are, of course, more consistent with economic theory. If we hold the assumption that consumers always allocate their total budget among the goods and services (adding-up condition), then the theory requires that decreases in income elasticities for some groups must be compensated by increases in income elasticities for others. Consequently, when the adding-up condition was examined for the semi-log form it was found that the result was not consistent with the theoretical target of unity. However, this condition is satisfied for the Box-Cox form (again the linear form automatically satisfies this condition). Therefore, one must conclude that the overall results obtained from the semilog form are not consistent with economic theory.

CONCLUSIONS

This study shows that there is a one-to-one correspondence between an Engel function and a complete demand function. As such, a linear Engel function may be derived from either LES or the CES demand systems. Both are theoretically plausible. The double-log and semi-log forms cannot be derived from these well-known complete demand systems. This study also demonstrated that the inclusion of the demographic variables in the Engel function in an additive fashion can be theoretically justified if (1) the original form is linear and (2) the demographic translating is applied. For both the double-log and semi-log forms, the additive inclusion of the demographic variables should be considered as ad hoc.

The Box-Cox general form was used to validate the linear form which is theoretically plausible and the semi-log which is empirically popular. The modified Engel function was estimated for a complete system of eight aggregate expenditure components, using the 1980-81 Consumer Expenditure Survey data.

The econometric results show that the Box-Cox general form (without restriction) satisfied the adding-up condition while the semi-log form violated this theoretical condition. (The linear form automatically satisfied the condition.) The study shows that the appropriateness of the functional form should be evaluated from the standpoint of a complete demand system. Overall, the econometric results show that both the linear form and Box-Cox transformation produce reasonable sets of estimates of income elasticities, and both are clearly superior to the semi-log form.

The results show that demographic variables and household characteristics are important determinants of household budget allocation.

The Box-Cox general form produces an estimate of income elasticity considerably less than unity for food away from home. Furthermore, the results show that as income increases, the income elasticity for food away from home increases rather than decreases. The validity of the estimated patterns of income elasticities for this and other expenditure categories definitely deserves further investigation.

REFERENCES

1. Adrian, John, and Daniel, Raymond. "Impact of Socioeconomic Factors on Consumption of Selected Food Nutrients in the United States." American Journal of Agricultural Economics, 58 (February, 1976): 31-38.
2. Basiotis, P. P., Brown, M., Johnson, S. R., and Morgan, K. J. "Nutrient Availability, Food Costs, and Food Stamp." American Journal of Agricultural Economics, 65 (November 1983): 685-693.
3. Blancitorti, Laura, Green, Richard, and Sylvia Lane, "Income and Expenditure for Relatively More Versus Relatively Less Nutritious Food Over the Life Cycle," American Journal of Agricultural Economics, 63 (May 1981): 256-260.
4. Blaylock, James R., and Smallwood, David M. U. S. Demand for Food: Household Expenditures, Demographics, and Projections. U. S. Department of Agriculture, Economic Research Service, Technical Bulletin No. 1713, February 1986.
5. Box, G. E. P., and Cox, D. R. "An Analysis of Transformation." Journal of The Royal Statistical Society, Series B, 26 (1964): 211-243.
6. Chang, Hui-Shyong. "Functional Forms and the Demand for Meat in the United States." The Review of Economics and Statistics, 59 (August, 1977): 355-359.
7. Davis, Carlton G. "Linkages Between Socioeconomic Characteristics, Food Expenditure Patterns, and Nutritional Status of Low Income Household: A Critical Review." American Journal of Agricultural Economics, 64 (December 1982): 1017-1025.
8. Kakwani, N. C. and Podder, N. "Efficient Estimation of the Lorenz Curve and Associated Inequity Measures from Grouped Observations." Econometrica, 44 (January 1976): 137-148.
9. Kokoski, Mary F. "An Empirical Analysis of Intertemporal and Demographic Variations in Consumer Preferences." American Journal of Agricultural Economics, 68 (November 1986): 894-907.
10. Pollak, Robert A., and Wales, Terence J. "Comparison of the Quadratic Expenditure System and Translog Demand Systems with Alternative Specifications of Demographic Effects." Econometrica, 48 (April 1980): 595-612.
11. Pollak, Robert A., and Wales, Terence J. "Demographic Variables in Demand Analysis." Econometrica, 49 (November 1981): 1533-1551.
12. Prais, S. J., and Houthakker, A. S. The Analysis of Family Budget. Cambridge: Cambridge University Press. 1955.
13. U. S. Bureau of Labor Statistics. Consumer Expenditure Survey: Interview Survey, 1980-81. Bull. No. 2225, Washington, D.C., April 1985.

HOUSEHOLD EXPENDITURES ON CLOTHING AND TEXTILES

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ABSTRACT

This study was a preliminary analysis of household quarterly expenditures on apparel. The data were from the first quarter of the 1982 Consumer Expenditure Survey. Two different equations were estimated. Additional analysis needs to be done that examines expenditure over a one-year period, and in which the quarters correspond to the retail calendar.

INTRODUCTION

Apparel items, along with food and shelter, are considered to be basic consumer goods. Recent estimates indicate that Americans spent 147.3 billion dollars on apparel and shoes in 1985. On a per capita basis this represents $617.00 per person. In both real and current dollars expenditures for apparel and shoes have increased over time (3). Expenditures on, and consumer demand for apparel is of interest to consumer economists, apparel marketers, and other professionals interested in household consumption behavior.

Since the prices of other goods have risen faster than apparel prices, the percentage of the total family budget allocated to apparel (current dollars) has decreased. Expenditures on clothing and shoes accounted for 5.9 percent of personal consumption expenditures in 1985 as compared with 7.2 percent ten years earlier (3). Apparel goods suppliers are experiencing greater competition for the consumer dollar, and could benefit from an increased understanding of the factors influencing consumer clothing demand. The retail environment has been further affected by recent changes in both consumer behavior and sources of supply, as well as the entrance of new types of competition into the marketplace. Retailers, however, are not the only actors in the market who are facing changing conditions. Apparel manufacturers may "face extinction because of their failure to assume a marketing orientation," and their lack of understanding of the consumer (1). Knowledge of variations in expenditures for apparel items, due to differences in family characteristics, is an aid in understanding consumer demand.

Information regarding household expenditures on apparel and related services would assist consumer educators and extension specialists in evaluating family clothing needs and developing guidelines for specific family and income structures. In light of the increase in the prices of other goods, compared to clothing, there may be fewer dollars in the family budget for clothing. Although data on the purchase and use of apparel is important to producers, retailers and professionals who work directly with consumers, research in this area has been limited. The purpose of the proposed research is to examine the effects of various socio-economic and demographic characteristics on household expenditures for apparel. This will be accomplished by the empirical estimation of a variation of the standard Engel function. The Engel function expresses household expenditures on any good or service as a function of household income (5).

PREVIOUS RESEARCH

There is a large body of work in the area of consumption and demand analysis. There has been, however, relatively little economic research done in the apparel area. Early clothing and textile researchers developed descriptive clothing budgets which lacked statistical analysis (2, 10). Increasingly, multivariate statistical techniques have been used to analyze clothing expenditures. The Consumer Expenditure Survey (CES) has been a major source of data for the analysis of clothing demand. Erickson (6), as well as Lee and Phillips (9), used the 1960 Consumer Expenditure Survey to examine clothing consumption. Erickson analyzed the clothing expenditures for individual family members, while Lee and Phillips investigated differences in farm and nonfarm consumption patterns. Dardis et al. (4) used the 1972-73 CES to examine the effect of selected socio-economic and demographic variables on annual expenditures for clothing and clothing services.

Clothing studies using data other than the CES have been conducted by Hager and Bryant (8) and Frisbee (7). Bryant and Hager investigated the winter quarter purchases of new clothing in 1970, 1971 and 1972 by participants in the Rural Income Maintenance Experiment (RIME). Frisbee used the 1978 Statistics Canada Family Expenditure Survey to estimate the relationship between household characteristics and apparel expenditures.

One of the major limitations of all the studies is that the data used for analysis can no longer provide a current view of clothing consumption patterns. Although each of the studies is useful in providing insight regarding possible approaches for analyzing clothing expenditures, the results do not reflect current clothing consumption patterns. The Frisbee study, although relatively current, is most useful for understanding consumption behavior in Canada, rather than in the U. S. Additionally, the generalizability of the results from the Bryant and Hager study are limited since they used a rather unique sample.

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PROCEDURE

The data used in the analysis were from the first quarter of the 1982 Consumer Expenditure Survey (CES) collected by the Bureau of Labor Statistics. The CES is the most recent and comprehensive source of consumer expenditure data. Detailed information on household expenditures, as well as socio-economic and demographic characteristics, were collected from a national sample of over 5,000 households.

The empirical relationship between expenditures and household characteristics (the modified Engel function) can be expressed as:

$$E_j = b_0 + b_1X_1 + \dots b_nX_n$$

E_j = the dependent variable, expenditures on good j

b_i = the estimated coefficient for variable X_i ($i = 1$ to n)

X_i = the independent variable, a household characteristic ($i = 1$ to n)

Two different equations for this fall/winter quarter were estimated. The first equation (Equation I) was a duplication of the equation estimated by Dardis et al., while the second equation (Equation II) was a modification of the first that incorporated variables, or specifications of variables used by other researchers. As with previous research, ordinary least squares was used to estimate the expenditure equations.

Table 1 presents summary statistics for the sample. The average quarterly income was $3943.66. The average age of the household head was 45 years, while the average family size was 2.7. Seventy-five percent of the sample had at least a high school education. Slightly more than half of the household heads were employed in white collar jobs, while approximately one-third of the spouses were employed in white collar jobs. Approximately 75 percent of the sample was comprised of households headed by a white person.

RESULTS

Equation I was estimated so that the results of this study could be compared with those of the most recent research on clothing expenditures that used the CES (4). This comparison is expected to provide insight regarding changes in the effect of various socio-economic and demographic variables on clothing expenditures over time. The dependent variable in Equation I was the sum of expenditures on apparel, including accessories, and apparel services. The independent variables included quarterly after tax income, family size, age of head, presence 6f children less than 6, education of head, occupation of head, region, employment status of the spouse and race.

In comparing the equations from the two time periods, it should be noted that the Dardis results were based on annual data, while the current results are based on quarterly data. Location (urban/rural) was not included in the present analysis since the 1980-81 CES was restricted to urban households. In each case, expenditures, income and family size were entered into the equation in natural log form, while the remaining variables were entered as dummy variables. All of the coefficients for the dummy variables were transformed by taking the anti-log of the coefficient as done by Dardis et al. The results are presented in Tables 2 and 3.

TABLE 1. Descriptive Statistics of the Sample

VARIABLE	MEAN VALUE
Income	$3943.66
Age of head	45 years
Family size	2.7
Apparel expenditures	$253
VARIABLE	**FREQUENCY**
Education:	
Elementary	505
Some high school	518
High school	1214
Some college	989
College graduate	879
White collar job:	
Head	2104
Spouse	1093
Region:	
Northeast	901
Northcentral	1126
South	1152
West	926
Race:	
White	3588
Non-white	517

TABLE 2. Regression Coefficients for Income and Family Size, Logarithmic Equations, 1982 CES and 1972 CES Results[1]

Variable	B (1982)	B (1972)
Income	0.17* (0.019)	0.617* (0.018)
Family size	0.544* (0.05)	0.111*

1 = standard errors in parentheses

* = significant at .01

There is consistency with respect to the significance and magnitude for selected variables between 1972 and 1982. In each equation, income, family size, presence of children less than six, region, and selected age, educational, and occupational categories were significant. The interesting comparison between the equations occurs when

TABLE 3. Transformed Regression Coefficients for Dummy Variables[1], Logarithmic Equations, 1982 CES and 1972 CES Results

Characteristic	1982 Coefficient	1972 Coefficient
Age of household head (65 or older)		
Less than 25	122*	169*
25-34	123*	156*
35-44	134*	146*
45-54	112	148*
55-64	108	124*
Married (not married)	106	99
Youngest child less than six (other households)	77*	89*
Education (high school graduate)		
Some grade school	85*	82*
Some high school	85*	92*
Some college	120*	112*
College graduate	140*	114*
Occupation (craftsmen)		
Self-employed	101	120*
Salaried professionals	110	105
Salaried manager	134*	129*
Clerical workers	115	115*
Sales workers	115	125*
Operators	90	93*
Unskilled labor	92	92
Service workers	101	102
Not working	83*	78*
Retired	74*	80*
Region (West)		
Northeast	113*	107*
Northcentral	105	100
South	99	105
Working wife (non-working wife)	111	111*
White (non-white)	113	72*
Rural location (urban location)	--	84*

[1] The coefficient for the omitted category, which is given in parentheses, has a value of 100.

*Coefficient significant at 0.05 level.

there is a difference in the significance or magnitude of the coefficients.

In each equation, income and family size are significant; however, the magnitudes are markedly different. Although in each case clothing expenditures are income inelastic, the magnitude was .617 with the 1972 data, and .17 with the 1982 data. A percent change in income resulted in a much smaller percentage change in apparel expenditures in 1982. On the other hand, a one percent increase in family size resulted in a .54 percent change in apparel expenditures in 1982 compared to a .11 percent change in 1972.

The results for age of head differ somewhat between the two time periods. In the most recent analysis, there was no significant difference in apparel expenditures between households headed by a person 45-64 years old and households headed by someone over the age of 65. In 1972, households with heads ages 45-54 (55-64) spent 48 (24) percent more on apparel than households headed by a person over the age of 65. Also, for the age categories that were statistically significant in both years, the magnitudes of the coefficients were much larger in 1972 (69 percent vs. 22 percent; 56 percent vs. 23 percent and 46 percent vs. 34 percent).

Households with a child less than six spent significantly less on apparel than households without a child less than age six in both years. In 1972 the households with a younger child spent 11 percent less, whereas in 1982 they spent 23 percent less.

All of the educational categories were significant in both years. There were some interesting differences with respect to their magnitude. Those households in which the head had some high school education spent 8 percent less than high school graduates in 1972 and 15 percent less in 1982. Those with a college education spent 14 percent more in 1972 and 40 percent more in 1982 than households with a high school educated head.

Another interesting difference between the two studies was that although the magnitude of the coefficient for spouse employment was the same in both years, it was significant only in 1972.

The difference in the coefficient on the race variable also indicated differences over the 10-year period. In 1972 non-blacks spent 28 percent less on apparel than did blacks. In 1982, whites spent 13 percent more on apparel than did non-blacks. Some of the disparity may be due to the fact that the treatment of races other than white or black was handled differently in each study. However, given the limited number of these other races, it is not likely that this could explain all of the difference.

The comparison of the 1972 and 1982 equations indicates stability over time with respect to the effects of some variables, and marked changes in others. Before definite conclusions can be drawn, however, it would be necessary to extend the quarterly analysis over a period of a year, or to compare total annual expenditures.

The results for Equation II are presented in Table 4. This equation was estimated in linear form. The independent variables included in the equation are quarterly after tax income, age of head, the number of household members in various age and sex categories, the sex of head, education of the head, region, race, whether or not the head or spouse were employed in white collar jobs, and whether or not there were expenditures on sewing items.

The statistically significant variables were income, age of head, the number of children less than 2, the number of females ages 2-15 and over 16, the number of males over 16, all educational categories except elementary education, whether or not the head or spouse worked in white collar jobs, whether or not the household was located in

TABLE 4. Parameters Estimates for Household Apparel Expenditures, Linear Equation

Variable	B	S.E. of B
Intercept	11.8	23.6
Income	0.02*	0.0016
Age of head	-0.75**	0.31
Children < 2	-54.8*	15.29
Females 2-15	44.5*	7.9
Males 2-15	9.04	7.29
Females over 16	68.7*	8.2
Males over 16	22.4*	8.4
Sex of head	0.38	12.6
Eleduc	-25	16.3
Somehs	-28***	15.3
Somecoll	50.5*	12.6
Collgrad	105.4*	13.5
Whcollar	41.7*	10.1
Whcollarsp	40.7*	11.6
NE	43.2*	13.7
MW	9.4	12.95
South	31.2**	12.9
White	8.5	13.9
Sew	22.3***	12.8

* = Significant at = .01
** = Significant at = .05
*** = Significant at = .10
R^2 = .18
N = 4032

the northeast or south, and whether or not the household had any sewing expenditures.

The coefficient on quarterly income was .02. This indicates that, on average and holding other factors constant, a $1.00 change in quarterly income resulted in a two cent change in quarterly apparel expenditures in the same direction. The magnitude of the coefficient falls within the range of values (.007 to .05) found by Hager and Bryant for the effect of various types of income (negative income tax payment, wife and other family income) on winter clothing expenditures in the RIME sample.

The coefficient on age indicates that as the age of household head increases, clothing expenditures decline. This result coincides with the results of previous studies (4, 7).

With respect to the age and sex of family members, the presence of children less than two has a negative effect on apparel expenditures. On average, and ceteris paribus, the addition of an infant to a household results in a decline in quarterly apparel expenditures by $54.80. This may reflect the medical expenses and life insurance that are brought about by the addition of a child under the age of two. Infants do not demand as much in clothing relative to other goods and services since clothing is a common baby gift and there is a well developed second hand market for children's clothing. Females ages 2-15 and over 16 had a significant positive effect on apparel expenditures. The coefficients for males are relatively smaller or insignificant, supporting the idea that women and girls consume clothing to a greater extent than men and boys. (2)

Education appears to significantly affect apparel expenditures. Households in which the head had less than a high school education spent less on clothing, on average and holding other factors constant, compared to households with a high school educated head. Just the opposite was true for households with a head that had more than a high school education. These results coincide with previous research (4). Since job type is being held constant, education may reflect differences in tastes and preferences.

Occupation was proxied by whether or not a person (head or spouse) worked in a white collar job. In each case, people who worked in white collar jobs spend a little over $40 more on clothes during the quarter than those people who weren't in white collar jobs.

In terms of region, households located in the northeast and south spent significantly more on apparel than did households located in the west. The result for the northeast is not surprising given the difference in the fall/winter climate between the northeast and west. However, the result for the south is somewhat puzzling.

Finally, households in which there was some positive expenditure on sewing items spent more, on average and ceteris paribus, than households with zero sewing expenditures. This result does not support the notion that households in which sewing occurs will substitute home-made clothing for store-bought clothing. It is possible that sewing expenditures is proxying clothing interest.

CONCLUSIONS

This research has investigated the influence of selected socio-economic and demographic variables on apparel expenditures. Data from the first quarter of the 1982 Consumer Expenditure Survey were used for the analysis. The results of this study are useful in providing a general overview of current U. S. clothing demand. However, to get a fuller view of current clothing consumption, additional analysis is necessary. First, Winakor (11) has pointed out the need for measuring clothing acquisition and discard over a one-year period. This could be done using total annual expenditures or quarterly expenditures. For clothing, which is greatly influenced by seasonality, both climatic and social, as well as retailing efforts, quarterly analysis seems appropriate. Quarterly analysis would allow variations in the effect of individual variables to be measured. Additionally, selection of months within a quarter that correspond to the retail cycle would provide the most useful information to retailers.

Second, future research of a more specific nature would be useful. For example, the allocation of clothing dollars to various types of clothing (e.g., suits, sportswear) or for different family members should be done. Additionally, analysis of expenditures by growing consumer segments, such as the elderly, is necessary. Finally, given the growth in the services industry, expenditures on apparel services would be of interest.

Besides future avenues for empirical research, other issues that should be addressed include the need for additional theoretical development. Apparel differs from other consumer goods in a variety of ways. It is a semi-durable good, and consequently consumers generally have an inventory of clothing that may influence their clothing purchasing patterns. Additionally, the fashion element embedded in clothing should be recognized. The inclusion of psychographic variables in explaining apparel purchases may prove fruitful.

REFERENCES

1. American Marketing Association. "Apparel Manufacturers Face Extinction Because of Their Failure to Assume a Marketing Orientation, Consultant Says." Marketing News 19(2):1-3.

2. Britton, Virginia. "Clothing Quantity Budgets." Family Economics Review, Fall 1974, pp. 3-7.

3. Courtless, Foan C. "Recent Trends in Clothing and Textiles." Family Economics Review, 1986, No. 2, pp. 17-26.

4. Dardis, Rachel, Derrick, Frederick, and Lehfeld, Alane. "Clothing in the United States: A Cross-Sectional Analysis." Home Economics Research Journal 10(2): 212-222.

5. Deaton, Angus, and Muellbauer, John. Economics and Consumer Behavior. New York: Cambridge University Press, 1980.

6. Erickson, A. "Clothing the Urban American Family: How Much for Whom?" Monthly Labor Review 91:14-19.

7. Frisbee, William R. "An Economic Analysis of Household Clothing Expenditures in Canada." Canadian Home Economics Journal, January 1986.

8. Hager, Christine J., and Bryant, W. Keith. "Clothing Expenditures of Low Income Rural Families." Journal of Consumer Affairs 11(2):127-132.

9. Lee, Feng-Yoo, and Phillips, K. E. "Differences in Consumption Patterns of Farm and Nonfarm Households in the United States." American Journal of Agricultural Economics 53:573-582.

10. Winakor, Geitel, et al. "Clothing Budgets." Journal of Home Economics 63:354-362.

11. Winakor, Geitel. "The Process of Clothing Consumption." Journal of Home Economics 61:629-634.

INCOME REPORTING IN THE U.S. CONSUMER EXPENDITURE SURVEY

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ABSTRACT

The purpose of this study was to examine the relationship between particular socioeconomic characteristics and the probability that a household (consumer unit) reports income information. Socioeconomic variables included in the model were the age, race, sex, education, and occupation of the reference person, and the housing tenure, degree of urbanization, and region of residence of the household. Binomial logit analysis was used to model the probability of income response completeness. Data from the Interview portion of the 1983 U.S. Consumer Expenditure (CE) Survey were analyzed. Results of this study have important implications for consumer researchers conducting analyses of CE Survey data.

INTRODUCTION

Data from the U.S. Consumer Expenditure (CE) Survey are frequently used by consumer researchers to study the expenditure behavior of households or consumer units.[2] The CE Survey data are ideal for this type of analysis since they are the most comprehensive information available on the expenditures, income, and corresponding socioeconomic characteristics of American consumer units. However, when data such as these are collected, incomplete responses or nonresponses frequently result. The usefulness of survey data to economic researchers is sensitive to how missing data are treated. For example, if an analysis is restricted to complete cases only and the cases are not a random subsample of the original population, restricting the analysis would involve loss of efficiency and could yield biased results.

The focus of this paper is the nonreporting of income, a pervasive problem in household surveys. For studies in which income is included as an explanatory variable, it is imperative that researchers are familiar with the patterns of income nonresponse and the underlying assumptions concerning the distribution of missing values. The purpose of this research was to identify socioeconomic factors related to the probability that a consumer unit, participating in the U.S. Consumer Expenditure Survey Interview, reports income information. Binomial logit analysis was used to model the probability of income response completeness.

It was hypothesized that the probability of income response completeness is a function of various socioeconomic characteristics. The socioeconomic variables included in the model were the age, race, sex, education, and occupation of the reference person.[3] Reference person characteristics were used for the analysis since the consumer unit's characteristics are most often identified by the reference person's. Additional variables included the housing tenure, degree of urbanization, and region of residence of the consumer unit.

Results from previous studies were used as a basis for identifying the variables to include in the probability of income response model and for specifying hypothesized relationships. These studies included examinations of the probability of reporting earnings or wages and salaries for the Current Population Survey, CPS (Greenlees, Reece, and Zieschang 1982; Lillard, Smith, and Welch 1986), income imputation procedures (Little and Samuhel 1983), nonresponse rates in the Survey of Income and Program Participation, SIPP (Coder and Feldman 1984), and factors affecting survey data quality (Andrews and Herzog 1986). Previous income reporting studies focused primarily on the reporting of earnings or wages and salaries of individuals. Often the samples were restricted to the working age population and to males. An exception was provided by Coder and Feldman (1984) in their examination of income nonresponse for SIPP; these researchers produced nonresponse rates for several sources of income for individuals age 15 and older. In contrast to these previous studies, the unit of analysis for this study was the consumer unit, with all consumer unit members aged 14 and over requested to provide income information.

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[1] Economist in the Division of Price and Index Number Research. Any views expressed are the author's and do not reflect policies of the Bureau of Labor Statistics (BLS) or views of other BLS staff members.

[2] The term consumer unit is used throughtout the remainder of the paper rather than household, since the consumer unit is the basic reporting unit for the CE Survey. A consumer unit is defined as one of the following: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who pool their income to make joint expenditure decisions. Financial independence is determined by the three major expense categories: housing, food, and other living expenses. To be considered financially independent, at least two of the three major expense categories must be provided by the respondent.

In the majority of cases, there is one consumer unit per household (U.S. Department of Labor 1986).

[3] The reference person is the first member of the consumer unit mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home." (U.S. Department of Labor 1986).

Results from this study can be used to provide information concerning the relationship of income nonresponse and socioeconomic factors, which are frequently used in conducting expenditure analyses. In turn, researchers can select procedures for analysis which account for the possibility that income data are not missing at random in the Survey. The ideas and results presented in this paper represent the first stage in an overall research plan to examine issues related to income nonresponse in the CE.

This paper is organized into three remaining sections: Methods and Procedures, Results, and Summary and Conclusions.

METHODS AND PROCEDURES

Data Source

The data used in this study were from the Interview portion of the 1983 U.S. Consumer Expenditure (CE) Survey. The CE Survey data are collected by the Bureau of the Census under the auspices of the BLS. The Interview sample, selected on a rotating panel basis, is targeted at 4,800 consumer units per quarter. Each quarter one-fifth of the sample is new to the survey. After being interviewed for five consecutive quarters, each panel is dropped from the survey. Detailed income data are collected during interviews two and five only. For the purpose of this study, the sample was defined as all consumer units participating in a second interview during 1983. Because consumer units living in rural areas outside Standard Metropolitan Statistical Areas (SMSA's) were not surveyed in that year, they were not part of the study sample.

Dependent Variable

Income reporting was defined in terms of the completeness of income information obtained from consumer units. The distinction between a complete and an incomplete income reporter, used in this analysis (and by BLS in its publications of CE Survey data), was based on whether the respondent provided values for various sources of income. Sources were grouped into two categories: major sources of income and other sources of income.

Major sources of income include:
- wages and salaries
- income from non-farm business partnership or professional practice
- Social Security or Railroad Retirement
- Supplemental Security Income.

Other sources of income include[4]:
- unemployment compensation
- workmen's compensation and veteran's payments including educational benefits
- public assistance or welfare receipts including income from job training grants such as Job Corps
- interest received on savings accounts or bonds
- regular income received from dividends, royalties, estates, or trusts
- income received from pensions or annuities from private companies, military, or government
- income or loss received from roomers or boarders
- income or loss received from payments from other rental units
- regular contributions received from alimony or child support and other sources combined.

A consumer unit was defined as a complete income reporter if:

(a) the reference person had a non-zero amount reported for a major source of income, any entry for a major source of income for at least one other consumer unit member was recorded, and any entry for other sources of income was recorded; or

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[4] Additional income, not included in "Other Sources of Income" for the purpose of identifying consumer units as complete or incomplete income respondents, includes money received from the care of foster children, cash scholarships and fellowships or stipends not based on earnings and the annual value of food stamps. Income from these sources, however, is added to the income received from the sources noted above to calculate a consumer unit's income before taxes. Income before taxes is the income variable used in CE Survey publications to classify consumer units.

(b) consumer unit member(s) other than the reference person had a non-zero amount reported for a major source of income, valid blanks (recorded if a consumer unit member indicated that income was not received from a particular source) were recorded for all the major sources of income for the reference person, and any entry was recorded for other sources of income; or

(c) consumer unit member(s) had a non-zero amount reported for at least one other source of income and valid blanks were recorded for all major sources of income for all members.

Given this definition, it was possible even for complete income reporters not to have provided a full accounting of all income from all sources. Consumer units with other combinations of entries to the income questions were considered to be incomplete income respondents. In the extreme case of across-the-board zero income, the response was considered invalid and thereby constituted an incomplete income report.

Independent Variables

Eight socioeconomic factors were included in the model as independent variables. Five were characteristics of the reference person in the consumer unit: age, race, sex, education, and primary occupation. Race and sex of the reference person entered the model as control variables. An age squared term was included to account for possible nonlinear effects of age. The other three variables expected to be important in the probability model were consumer unit residence characteristics: housing tenure, degree urban, and region. Definitions of all variables included in the model are presented in Table 1. All independent variables except those for age entered the model as categorical variables. Thus, it was necessary to omit one of the dummy categories for each of the variable sets before estimating the model. The omitted category for each variable set is noted in parentheses in Table 1.

Factors hypothesized to be characteristics of consumer units least likely to be complete income reporters included: older age, more education, and self-employment of the reference person; homeownership and consumer unit residence in the Northeastern or Northcentral regions of the country. No hypotheses were made concerning race, sex, and degree of urbanization.

Table 1. Definitions of Variables

Dependent Variable	
Response:	Unity if consumer unit responded to income questions which identified the unit as a complete income reporter; zero if incomplete income reporter.
Independent Variables	
Age of Reference Person:	Age in years.
Age Squared:	Age of reference person squared.
Race of Reference Person:	Unity if black; zero if white or other.
Sex of Reference Person:	Unity if male; zero if female.
	Education of Reference Person
No school:	Unity if never attended school; zero otherwise.
Elementary:	Unity if 1-8 years of schooling completed or less than a high school graduate; zero otherwise.
College:	Unity if a college graduate (4 years); zero otherwise.
Postgraduate:	Unity if more than 4 years of college completed; zero otherwise.
(Omitted category was High School: reference person is a high school graduate or has completed some years of college.)	
Primary Occupation of Reference Person	
Sales:	Unity if person received the most earnings in the past 12 months from employment in a technical, sales, or administrative support occupation; zero otherwise.
Services:	Unity if person received the most earnings in the past 12 months from employment in a services, farming, forestry, or fishing occupation or in the armed forces; zero otherwise.
Laborer:	Unity if person received the most earnings in the past 12 months from employment as an operator, fabricator, or laborer; zero otherwise.
Craft:	Unity if person received the most earnings in the past 12 months from employment in a precision production, craft, or repair occupation; zero otherwise.
Self-employed:	Unity if person received the most earnings in the past 12 months from self-employment; zero otherwise.
Retired:	Unity if person was retired in the past 12 months; zero otherwise.
Not Working or other:	Unity if person was not working in the past 12 months or did not respond to occupation question; zero otherwise.
(Omitted category was Salaried Professional or Manager: reference person received the most earnings in the past 12 months from employment in a managerial or professional specialty occupation.)	
Housing Tenure:	Unity if consumer unit owned home; zero if consumer unit rented.
Degree Urban:	Unity if consumer unit resided in the central city of a SMSA; zero if consumer unit resided inside a SMSA in other places of 50,000 or over, places less than 50,000 and other urban territories, urban places of 2,500 to 50,000 outside an urbanized area, rural non-farm areas, or on a rural farm, or outside a SMSA in urbanized areas and urban places of 2,500 to 50,000 outside an urbanized area.
Region	
Northeast:	Unity if consumer unit resided in the Northeast region; zero otherwise.
Northcentral:	Unity if consumer unit resided in the Northcentral region; zero otherwise.
West:	Unity if consumer unit resided in the West region; zero otherwise.
(Omitted category was South: consumer unit resided in the South region.)	
Constant:	Unity for all observations.

A variable could influence income response completeness independently of the value of income or the value of income could indirectly affect response completeness through its effect on the independent variable. However, no attempt was made in this study to isolate the direct effects of the independent variables on response completeness probabilities.

Estimation Procedure

The statistical analysis of the probability of complete income response was based upon a binomial logit model.[5] In this study the model under consideration was

$$P_i = \text{Prob}(Y_i = 1) = F(X_i\beta), \text{ and} \qquad (1)$$

$$1-P_i = \text{Prob}(Y_i = 0) = 1 - F(X_i\beta) \qquad (2)$$

where the $F(X_i\beta)$ is a cumulative distribution function that describes how the probabilities of complete income reporting and incomplete income reporting, respectively, are related to the socioeconomic variables. P_i is the probability that the i-th consumer unit is a complete income reporter, X_i is the vector of characteristics of the i-th consumer unit, and β is the vector of unknown parameters. The binomial logit model assumes a cumulative logistic probability distribution for the underlying function. The probability of a complete income response is defined mathematically as

$$P_i = F(X_i\beta) = \frac{1}{1+e^{-(X_i\beta)}} \qquad (3)$$

The X_i's are considered to be observations on nonstochastic variables which are independent of each other. The error terms implicit in the model are assumed to follow the Weibull or extreme value distribution and are assumed to be independent.

Logit parameter estimates were obtained through maximum likelihood estimation, using the interative Newton-Raphson optimization procedure. The computer software package (LOGIT) employed for the analysis was developed by Antos (1983).

RESULTS

In 1983, 4,611 consumer units participated in a second interview of the CE Survey. The mean values and percent distribution of independent variables used in the logit analysis are presented in Table 2.

Table 2. Mean Values and Percent Distribution of Variables in Logit Analysis

Independent Variable	Full Sample (n=4611)	Complete Income Reporter (n=4018)	Incomplete Income Reporter (n=593)
Age of Reference Person			
Age	45.91	45.59	48.03
Age squared	2428.23	2404.79	2587.07
Race of Reference Person			
Black	11.08	11.03	11.47
White and other	88.92	88.97	88.53
Sex of Reference Person			
Male	67.73	67.10	72.01
Female	32.27	32.90	27.99
Education of Reference Person			
No school	0.54	0.47	1.01
Elementary	25.53	25.91	22.93
High School	52.11	52.27	51.10
College	11.00	10.55	14.00
Postgraduate	10.82	10.80	10.96
Principal Occupation of Reference Person			
Salaried Professional or Manager	21.66	21.73	21.26
Sales	17.76	18.09	15.51
Services	8.72	9.23	5.23
Laborer	11.88	12.10	10.46
Craft	6.68	6.72	6.41
Self-employed	6.12	5.00	13.66
Retired	15.25	15.43	14.00
Not working and other	11.93	11.70	13.49
Housing Tenure			
Owned	59.57	58.19	68.97
Rented	40.43	41.81	31.03
Degree Urban			
Inside a central city	34.85	35.09	33.22
Outside a central city	65.15	64.91	66.78
Region			
Northeast	22.53	20.81	34.23
South	27.83	28.70	21.92
Northcentral	26.15	25.73	29.01
West	23.49	24.76	14.84

Results of the logit analysis are displayed in Table 3. To test the significance over all of the coefficients in the model, the likelihood ratio statistic was used.[6] The resulting Chi square value was significant at the $\alpha = 0.01$ level. The null hypothesis that all of the coefficients (except the intercept) are equal to zero was rejected.

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[5] There are numerous references in the literature to logit analysis. See Domencich and McFadden (1975), Judge et al. (1982), Maddala (1977), Maddala (1983), Pindyck and Rubinfeld (1981).

Table 3. Estimated Model Parameters and Standard Errors

Independent Variable	Estimated Parameter	Asymptotic Standard Error
Age of Reference Person		
Age	-0.0463*	0.0174
Age squared	0.0004**	0.0002
Race of Reference Person (White and other)		
Black	-0.2709	0.1538
Sex of Reference Person (Female)		
Male	-0.1237	0.1092
Education of Reference Person (High school)		
No school	-0.7433	0.4813
Elementary	0.1479	0.1220
College	-0.3684**	0.1437
Postgraduate	0.0185	0.1636
Principal Occupation of Reference Person (Salaried Professional or Manager)		
Sales	0.0180	0.1568
Services	0.3513	0.2226
Laborer	0.0644	0.1833
Craft	-0.0748	0.2123
Self-employed	-1.0839*	0.1737
Retired	0.0810	0.2048
Not working and other	-0.2467	0.1826
Housing Tenure (Rented)		
Owned	-0.2631**	0.1109
Degree Urban (Outside a central city)		
Inside a central city	-0.0831	0.1016
Region (South)		
Northeast	-0.8287*	0.1265
Northcentral	-0.3702*	0.1276
West	0.2198	0.1491
Constant	3.7868*	0.4163
Likelihood Ratio Statistic	182.253> 37.57	
Likelihood Ratio Index	0.052	

*Statistically significant at the 0.01 level.
**Statistically significant at the 0.05 level.

The likelihood ratio[7] index was calculated as a measure of goodness-of-fit of the logit model. A relatively low index value (0.052) was obtained, although it may be reasonable given the cross-sectional nature of the data.

Among the socioeconomic variables included in the probability model, age, age squared, one of the education dummy variables (college), one of the occupation variables (self-employed), housing tenure, and two of the region variables (Northeast and Northcentral) had statistically significant coefficient values. For the most part, these results were consistent with the hypotheses and with the findings of previous researchers.

The negative coefficient for the age variable indicates that as age increased, the probability of complete income response decreased. If consumer units with older reference persons have high incomes and/or receive income from numerous sources, they may be less likely to divulge their incomes or to note dollar amounts received from each income source. Or, they may react to the questionnaire design or interview procedure. However, the coefficient for age squared was positive, although small. This indicates that, for most of the sample, as age increased, the effect of age on the probability of complete income reporting (while negative) diminished. This change could occur once the reference person enters his or her retirement years. The prime earning years would be considered past and perhaps one's willingness to participate in long surveys, such as the CE, increases after retiring from the labor market.

Of all the education coefficients, only the one for college was significant in the probability model. Consumer units with college educated reference persons were significantly less likely than those in the omitted category (high school degree or some college) to be complete income

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[6] The test statistic is $\chi^2 = -2(\log \text{Likelihood}_R - \log \text{Likelihood}U)$. The statistic is asymptotically Chi-square distributed with the degrees of freedom equal to the number of coefficients set equal to zero. The log likelihood function for the restricted model, represented by R, is obtained when the function is maximized with respect to the intercept only. The log likelihood of the unrestricted model, U, is obtained when the function is maximized with respect to all the coefficient estimates corresponding to the intercept and all explanatory variables.

[7] The index is

$$\rho^2 = 1 - \frac{\log \text{Likelihood}U}{\log \text{Likelihood}R}.$$

Generally the likelihood ratio index has an upper bound of about 0.3; it is unlikely that an index value would approach one because that could only happen if all individuals' predicted probabilities were exactly zero or one (Kinsey and Lane 1978; Pindyck and Rubinfeld 1981; Tardiff 1976).

reporters. Consumer units in the college educated group may have both higher incomes and more varied sources of income which require more detail in their income response than do the less educated. They may also place a higher value on their time and privacy (Lillard, Smith, and Welch 1986). Although the other education coefficients were not significant, the bimodal result for the signs relative to the probability of complete income response may indicate that the effects of education on the probability are nonlinear or that there is an interaction of education and other variables in the model.

Self-employment of the reference person was an important variable in the probability of complete reporting model. Consumer units with self-employed reference persons were significantly less likely to be complete income reporters than were consumer units with salaried professional or manager reference persons. Coder and Feldman (1984) and Lillard, Smith, and Welch (1986) reported similar findings for SIPP and the CPS, respectively. Researchers (Lillard, Smith, and Welch 1986) have noted that self-employed individuals are in occupations in which nonreporting is considerably higher than the average, and that these occupations share one or both of the following characteristics: "They are among the highest income occupations, or considerable ambiguity surrounds the calculation of net income from receipts and expenses for income tax purposes" (p.492).

Homeownership was negatively related to the probability of complete income response. It is likely that high income consumer units are more likely to be homeowners than to be renters, and that high income consumer units are likely to be incomplete income reporters. Thus, it is unlikely that homeownership exerts an independent effect on the propensity to respond. Whether the relationship is exerted rather through income is a subject for future research.

Coefficents for two of the region variables, Northeast and Northcentral, were statistically significant. Consumer units living in the Northeast and those living in the Northcentral regions of the country were significantly less likely than those living in the South to be complete income reporters. A ranking of the coefficients indicates that consumer units living in the Northeast were less likely to be complete income reporters than were those living in the Northcentral region. These differences may be related to regional patterns of cooperation or to differences in the value of income received or types of income received.

Tests for the combined contribution of variables represented by more than two dummy variables (as in the case of education, occupation, and region) or by more than one continuous variable (as in the case of age) were performed using the likelihood ratio statistic. Chi-square results are presented in Table 4. All of the variable sets contributed significantly to the income response model as explanatory variables.

Table 4. Chi Square Tests for Contribution of Sets of Variables

Independent Variable Set	Chi Square Statistic	Degrees of Freedom
Age of Reference Person	9.20**	2
Education of Reference Person	11.52**	4
Principal Occupation of Reference Person	59.18*	7
Region	72.74*	3

*Statistically significant at the 0.01 level.
**Statistically significant at the 0.05 level.

Since logit coefficients cannot directly provide a quantitative assessment of an independent variable's impact on the probability of an event occurring, an alternative procedure was followed. First, the estimated coefficients and consumer unit characteristics were used to compute the probability of complete income reporting according to the logistic cumulative distribution function as defined in equation (3). Characteristics at the mean were used to calculate the "average" response completeness probability. The impact of changes in the independent variables on the probability of complete income response was examined by calculating the probability at particular values of independent variables and then changing one value while holding all others constant. This procedure was employed since the majority of independent variables in the model are categorical and thus only non-marginal changes are meaningful. Only variables found to be significant in individual t-tests or those belonging to sets of variables that were significant were changed in order to observe the effect on the probabilities.

To assess the impact of changes, a representative consumer unit was identified for comparison. Charactersitics of the representative consumer unit were selected as the mean values of the continuous variables and as the categorical variables with the highest frequency of occurrence for the sample[8]; these characteristics are noted in Table 5.

Table 5. **Sample Probability Calculations for Complete and Incomplete Income Reporters**

Case Description	Probabilities	
	Complete Income Reporter	Incomplete Income Reporter
Sample (at the mean)	0.8849	0.1151
Representative Consumer Unit[a]	0.9018	0.0982
Changes to the Representative Consumer Unit		
Age (increase of one standard deviation)	0.8918	0.1082
No school	0.8136	0.1864
Elementary	0.9141	0.0859
College	0.8640	0.1360
Postgraduate	0.9034	0.0966
Sales	0.9034	0.0966
Services	0.9288	0.0712
Laborer	0.9073	0.0927
Craft	0.8949	0.1051
Self-employed	0.7564	0.2436
Retired	0.9087	0.0913
Not working and other	0.8777	0.1223
Rented	0.9225	0.0775
Northeast	0.8003	0.1997
Northcentral	0.8638	0.1362
West	0.9194	0.0806

[a] In all calculations, the "representative consumer unit" was characterized as follows: age = 45.9 years; (mean of age squared = 2428.23); race = white or other; sex = male; education = high school; occupation = salaried professional or manager; housing tenure = owned; degree urban = outside a central city; region = South.

On average, consumer units participating in a second interview of the CE Survey in 1983 had a 0.8849 probability of being complete income reporters (Table 5). The representative consumer unit had a 0.9018 probability of being a complete income respondent. As expected, changes in the probabilities were in the same direction as the signs of the estimated parameters.

The most dramatic impact on the response probabilities was recorded for the self-employed. A change in the reference person's occupation from salaried professional or manager to self-employed resulted in a decreased probability of complete income response to 0.7564. Consumer units with reference persons in service occupations, but with the same other representative characteristics, were most likely to be complete income respondents.

SUMMARY AND CONCLUSIONS

The purpose of this research was to identify consumer unit socioeconomic factors which are related to income reporting completeness. This is in contrast to earlier income/earnings reporting studies in which individual characteristics were related to response probabilities. Results of the logit analysis indicate that the age, education, and occupation of the reference person, housing tenure, and region in which the consumer unit resided were significant variables in determining the probability of being a complete income reporter. For the analysis, no attempt was made to test whether the socioeconomic variables influenced income completeness through their effect on income or whether the variables independently influenced income completeness. Based on the results from this study complete income reporting consumer units and incomplete income reporting consumer units are different in terms of several socioeconomic variables. However, it would be premature to say at this time that the pattern of incomplete income reporting is related to the missing income itself.

Results from this study have important implications for research. Consumer researchers interested in using income from the CE Survey need to be aware that complete and incomplete reporters of income are different; these differences may lead to biased estimation results if not accounted for in one's estimation procedure. We at the BLS are interested in developing an income imputation procedure for the CE Survey; results from this study can serve as a basis for evaluating model-based imputation procedures which can account for cases in which the incompleteness of income is related to income itself (for references see David, et al. 1983; Fay 1986). Focusing on factors related to income report completeness is important when revising data collection procedures to improve data quality.

Future research is needed to more specifically identify factors which are related to incomplete income response, and to determine whether the pattern of incomplete reporting is related to the missing income itself. Future research could include the testing of various specifications of the probability of income response completeness model. For example, the dependent variable could be defined to represent the three types of complete income reporting situations plus incomplete reporting categories for combinations of refusals and "don't knows." Or, the dependent variable could be defined in terms of the reporting of income by source (e.g., wages and salaries, self-employment income, retirement, and other). Or, the dependent variable could be defined in terms of the reporting of individuals within consumer units. In lieu of the reference person's characteristics, those of the survey respondent could be included as explanatory variables in the model. Additional socioeconomic variables which might be related to income response completeness include marital status of the survey respondent or reference person, number of children, number of persons within the consumer unit with an income source, work status of consumer unit members in terms of fulltime and parttime, and interaction terms for age, education, and occupation. In order to test hypotheses concerning data collection features of the survey, administrative variables could be added to the model. These might include the total number of minutes for the interview, month in which the interview was conducted, general survey nonresponse relative to specific income nonresponse, and whether records were used in answering an interviewer's questions.

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[8] Due to the procedure used to identify characteristics, the representative consumer unit for this analysis would be expected to differ from a representative consumer unit for another analysis if definitions for the categorical variables differed. For example, the percentage of consumer units with a reference person in the high school group would decrease if reference persons with some college, but not a four-year degree, were reclassified into the college category which currently refers to four-year college graduates only.

For whatever reason, consumer units which are identified as incomplete income reporters are unwilling or reluctant to provide requested income information. Reasons for incomplete income response are varied and complex. Cognitive research could be used to identify reasons for incomplete responses; subsequently, revisions to the questionnaire and data collection procedures could be introduced to increase income response completeness.

In conclusion, I repeat, this study must be considered as one of exploration. However, I think that the results are sufficiently promising to warrant future research on the incompleteness of income reporting and the missingness of income in the U.S. Consumer Expenditure Survey.

REFERENCES

Andrews, Frank M., and Herzog, A.R. (1986), "The Quality of Survey Data as Related to Age of Respondent," *Journal of the American Statistical Association*, 81 (394), 403-410.

Antos, Joseph (1983), LOGIT package version 3/83, available at the Bureau of Labor Statistics.

Coder, John F., and Feldman, Angela M. (1984), "Early Indications of Item Nonresponse on the Survey of Income and Program Participation," *American Statistical Association*, 1984 Proceedings of the Section on Survey Research Methods.

David, Martin H., Little, Roderick, Samuhel, Michael, and Triest, Robert (1983), "Imputation Models Based on the Propensity to Respond," *American Statistical Association, 1983 Proceedings of the Section on Business and Economics Statistics*.

Domencich, T., and McFadden, D. (1975), *Urban Travel Demand: A Behavioral Analysis*, Amsterdam: North Holland Press.

Fay, Robert E. (1986), "Causal Models for Patterns of Nonresponse," *Journal of the American Statistical Association*, 81 (394), 354-365.

Greenlees, John S., Reece, William S., and Zieschang, Kimberly D., (1982), "Imputation of Missing Values When the Probability of Response Depends on the Variable Being Imputed," *Journal of the American Statistical Association*, (Applications Section) 77 (378), 251-261.

Judge, G.G., Hill, R.C., Griffiths, W., Lutkepohl, H., and Lee, T. (1982), *Introduction to the Theory and Practice of Econometrics*, New York: John Wiley and Sons.

Kinsey, Jean, and Lane, Sylvia (1978), "The Effect of Debt on Perceived Household Welfare," *Journal of Consumer Affairs*, 12 (1), 48-62.

Lillard, Lee, Smith, James P., and Welch, Finis (1986), "What Do We Really Know about Wages? The Importance of Nonreporting and Census Imputation," *Journal of Political Economy*, 94

Little, Roderick J.A., and Samuhel, Michael E. (1983), "Alternative Models for CPS Income Imputation," *American Statistical Association, 1983 Proceedings of the Section on Survey Research Methods*.

Maddala, G.S. (1977), *Econometrics*, New York: McGraw Hill Book Company.

Maddala, G.S. (1983), *Limited-dependent and Qualitative Variables in Econometrics*, Cambridge: Cambridge University Press.

Pindyck, R.S., and Rubinfeld, D.L. (1981), *Econometric Models and Economic Forecasts* (2nd ed.), New York: McGraw-Hill Book Company.

Tardiff, T. (1976), "A Note on Goodness of Fit Statistics for Probit and Logit Models," Transportation, 5(4), 377-388.

U.S. Department of Labor, Bureau of Labor Statistics, (1986), Consumer Expenditure Survey: Interview Survey 1984, Bulletin 2267, Washington, D.C.: U.S. Government Printing Office.

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RESEARCH AND DEVELOPMENT--COSTS AND BENEFITS OF NONFARM EMPLOYMENT FOR FARM FAMILIES

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SOFTWARE PROJECT BACKGROUND

The North Central Region has the largest percentage of farm population of the four geographical regions in the United States. Because of the current farm crisis, many farm families are finding it impossible to live on current farm incomes and wonder if the solution is to secure nonfarm employment for either the husband or wife. Farm families do not know where to turn to get help. When they seek counsel, professionals do not have data to use in helping them to make their decision.

A search of software uncovered no programs designed to provide effective help for farm families in decision making concerning cost and benefits of nonfarm employment of one or both spouses. Data from Illinois, Nebraska, North Dakota, and Wisconsin can illustrate advantages and disadvantages of various alternatives by predicting outcomes of several alternatives. These data can be supplemented with data available from other sources (e.g., income tax records, consumer expenditure data).

Our research team submitted a Proposal, "Development of Basic Self-Instructional Modules in Analysis of Benefits of Nonfarm Employment for Members of Farm Families," to the North Central Computing Institute (NCCI). The project, first proposed by Paynter [1], included personnel from Illinois, Nebraska, North Dakota, and Wisconsin. As requested, partial funding was received from NCCI for a Chicago meeting and for help with software programming. Inputs to the spreadsheet were agreed upon at that meeting. Hafstrom combined Team inputs into a computer spreadsheet program which included Notes on Supporting Data, the Worksheet, Questions to be Asked at Various Parts of the Worksheet, and Instructions for Programmer. A preliminary handbook, "Does a 2nd Job Pay Off?--Help for Family Decision-Making," also was developed.

WORKSHEET

Income

The program is designed to estimate net income for second earner employment. It includes calculation of gross income from employment plus other income related to employment (tips, etc.). Benefits (insurance, profit sharing, pension contributions, etc.) related to employment are calculated. Subtotals are calculated and entered into a total income cell.

Expenses

Some expenses are to be entered for a specific job or position (e.g., work clothing, dues/licenses, tools/supplies). For transportation, respondent is asked about vehicle purchase and/or replacement, license/taxes/fees, insurance, tolls, carpool, etc. To illustrate some family expenses rise with employment, categories estimate child care, hired household help, extra dry cleaning, meals out, etc. Personal expenses, dinners/lunches at work, clothing, personal care, are included. Other possible expenses incurred as a result of employment are hired farm help, gifts/parties. Totals for each major expense category and a Subtotal of expenses related to employment are calculated.

Totals

The expense subtotal is summed with any cost of benefits related to employment. Gross Income minus Total Expenses are calculated as net income from employment for one job/position. Totals are printed out for the family.

Noneconomic Considerations

Before the program will print out, participants are asked if they have discussed noneconomic considerations that will influence decisions with household members (e.g., sharing of household workload, child care, seasonal variation in farm workloads, volunteer commitments).

LOOP AND HELP SCREENS

This program can be repeated for different job types as many times as necessary. Then printouts can be compared for families to use in decision making about external employment. It is designed to use Help screens to raise questions at each step. Research findings and expertise by professionals are used. Data from income-expenditure studies, income tax records, and local sources are included or suggested. A handbook for use by counselors is being prepared. Completion is expected in Summer, 1987.

REFERENCE

1. Paynter, M. A Proposal for a Computer Program: Does Off-farm Work Pay Off?" Proceedings of Family Financial Management Professionals NCCI Workshop. St. Paul, MN, 1985, pp. 119-120.

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PROGRAMS FOR FARM FAMILIES AND CONSUMERS

Karen P. Goebel, University of Wisconsin--Madison[1]
Nancy C. Hook[2]

SITUATION

Seek off-farm income has become the message to farm families as research has indicated the increasing proportion of income coming from nonfarm employment. In Wisconsin, programming efforts have been expanded to assist farm families in decision making to increase income. Efforts are comprehensive and include decision making in relation to both business operation and family system. The goal of the farm operation is to make a profit. Family goals are unique for each family, changing through the life cycle. Therefore, programs include more than just costs and benefits of off-farm income.

ANALYSIS OF FARM OPERATION

Using past farm records assists in determining profitability of the total operation and of each enterprise. Basic record keeping seminars can assist families in preparing for this analysis. Seminar topics include collecting, sorting/filing information and preparing statements of net worth, earnings, and farm/family expenses. The intertwined nature of family and farm financial affairs makes analysis complex. Analysis may suggest the need for more efficient operation of various enterprises, reorganization, expansion, diversification, or phasing out of the farm operation as well as supplemental income from off-farm employment.

A major decision is whether to stay in or give up farming. If the decision is to stay in farming, then consideration of off-farm income or alternative sources of income becomes feasible. Off-farm employment may be full- or part-time for either or both spouses. Programming for family members would desirably include employment opportunities and job search skills, résumé writing, interviewing, and related topics. Because off-farm income in Wisconsin is provided more frequently by farm women with higher educational levels, programming should include opportunities for upgrading and retraining to expand skills and abilities that will match the demand for employment.

If the decision is to leave farming, career development becomes paramount. Programming efforts in education and employment training are provided in tandem with the Vocational, Technical and Adult Education (VTAE) system, and other colleges and agencies in the community.

ANALYSIS OF OFF-FARM EMPLOYMENT

In analyzing costs and benefits of off-farm income, anticipated changes in economic, social, and psychological environment of the family need to be considered. The economic gain of fringe benefits is often an incentive for working off-farm, particularly if adequate health insurance is included. A manual to accompany software being developed includes questions for families to consider on costs and benefits of off-farm employment and role and responsibility changes within the family system. Farmers have personal and satisfaction needs to fulfill as well as a need to contribute to income. Women may find nonfarm employment causes increased emotional/physical stress and conflict because of ingrained traditional values. Recognizing these costs as well as the obvious economic costs is important and may call for innovative treatment and family/neighborhood support.

A "day of learning" is planned to incorporate: analysis of farm operation; employment opportunities and job search skills; development of alternative sources of income at home; educational opportunities; analysis of off-farm employment; household time and stress management. This model program will include exhibits, seminars and workshops. In-depth workshops will precede, follow, and be part of the "day of learning." Particularly important are workshops on records management and to enhance production and marketing skills of women. University of Wisconsin Extension will provide speakers, discussion leaders, and coordination of community resources. Agricultural, community development, and home economics faculty are working on this integrated program. VTAE system and other nonprofit community agencies have major responsibility for career development and employment skills. Extension is assuming major responsibility for analysis of the farm/household operation and alternative sources of income.

Various programs in the Midwest to support farm families in coping with the farm crisis have revealed a number of problems and assisted in formulating new programs. In Wisconsin, the UWEX SOS (Strategies On Survival) program included one-on-one counseling with individuals and families and workshops. County staff found counseling labor intensive but very effective in motivating families to act. Workshops were efficient but tended to be less effective in assisting families in decision making. Consequently, a volunteer farm financial counselor program is being piloted in three counties. Volunteers receive 30 hours of instruction and will assist families in management, financial analysis, and stress reduction. Referrals will be made to appropriate cooperating agencies.

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FINANCIAL MANAGEMENT: APPLICATION FOR THE CLASSROOM

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North Dakota State University

SITUATION OF FARM FAMILIES

According to a recent survey, the majority of the farm families in one state have reduced their present consumption level due to the current farm economic situation. The random survey of North Dakota farm families (N = 155) conducted in Summer 1986 indicated that:

- income, savings, and standard of living are important to 95% of the sample, however two-thirds of them are dissatisfied with their economic situation.
- it is important to 61% of the respondents to meet sudden financial demands, yet 70% of the sample is unable to meet a sudden financial demand.
- the current farm economic situation has caused three-fourths of them to reduce their present consumption of goods and services.
- more than one-half of the sample feel they have little or no control over their life.
- dissatisfaction with their financial situation contributes greatly to this perceived lack of control.

Budget counseling and better money management skills would help these families utilize their financial resources more effectively and therefore better cope with financial stress. This is especially true because farm families cannot control the market price of their farm commodities. Their recourse is to either change their expenditure level or to increase their income.

In most North Dakota rural communities there are few, if any, new off-farm employment opportunities available. Therefore, better financial management is the most viable alternative for these families.

CLASSROOM SOLUTIONS

Students in Family Economics classes at North Dakota University are interested in helping economically stressed farm families and other households get back on their feet financially. In order to work professionally with such families, college students must understand the principles of money management. To that end a reality-based, computerized case study incorporating money management principles was developed. Family Economics students are taught application of financial management principles using this computerized case study.

The major advantage of the case study method is that it enables all students in the personal and family finance course to work within a common framework, yet it allows for individual decision making. The microcomputer is an extremely effective teaching tool when spreadsheet programs are utilized because students can see the total financial plan immediately, examine alternatives, and obtain instant feedback. Student accuracy is greatly improved due to fewer mathematical errors. For the teacher, the major consideration is finding software that is inexpensive, that can be copied without infringement of copyright laws, is user friendly, and requires little time to learn.*

Each student is required to develop a complete case history of a family including its financial goals and philosophy toward money. The assignment emphasizes the theory and principles of money management taught throughout the course. The assignment is handed to the students at the beginning of the course and is to be completed at the end of the ten-week quarter. Students make value and goal judgments of their own through the planning process. Therefore, the assignment is personalized to meet the financial goals as cited by the student for that family.

The lack of complexity of the software and the ease with which the software can be applied relieves the apprehension of students who have not previously used the microcomputer. Student evaluations indicate they grasp concepts associated with budgeting and financial planning much more readily when they do not use the computer.

The knowledge of the theory of money management and its computer application will enhance the professional skills of Family Economics students who wish to counsel families experiencing financial difficulties. With this type of counseling, families will be helped to reassess and revise their financial goals so that they can better cope financially with their debt load. As farm families become more satisfied with their economics situation, it is hoped that they will regain control over their life.

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*PC-Calc(tm), A Spreadsheet Program for the IBM Personal Computer, Jim Button, ButtonWard, P.O. Box 5786, Bellevue, WA 98006 met the criteria of this assignment.

INSERVICE EDUCATION FOR COMMUNITY WORKERS

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FARM FINANCIAL CRISIS

American rural families and communities are experiencing major stress as a result of the farm financial crisis. As most economists and public policy makers agree, the rural crisis will not be just a short-term problem. For many rural communities, a transition period of 5 to 10 years is expected [1].

Community services and groups such as churches, mental health personnel, social service and community action agency personnel, teachers, and those employed by financial institutions work directly with rural family members experiencing financial distress. Such "helpers" may not understand the nature of the rural problem, having had no actual experience with irregular, self-employed income. On the surface, the addition of off-farm employment seems to be a possible, temporary solution for rural financial problems, but the small actual financial benefits of such employment because of a lack of employment opportunities in the local community, low wage rates, and the additional financial costs of new employment may not be recognized.

The effects on the individual employed and other family members also need to be considered. Lack of time can lead to a change in roles, responsibilities, lifestyles, priorities, routines, and goals. When such changes are in conflict with the expectations and values of the worker and other family members, additional stress results.

CES RESPONSE

For many years the Cooperative Extension Service (CES) in most states has worked with various "helping" agencies and organizations in communities providing education for clientele and education inservice opportunities for the professionals and para-professionals who are employed or who voluntarily serve these community groups. An example of such cooperation is a continuing education program for clergy and spouses planned by the CES in Nebraska and Interchurch Ministries of Nebraska.

Because of the irregular nature of some clergy incomes, the workshop was planned to provide help for clergy and their spouses in their personal situations and when helping parishioners. The day-long workshop includes training in the use of CES family financial and stress management materials; information on community referral sources; discussion of the nature of farm income; alternatives available to families during times of financial problems; methods to creatively cope with stresses and problems of others; and the opportunity for clergy to share and spend time with colleagues. Workshop resource persons include: the CES specialists in family economics and management, and in family life; the local extension agent in agriculture; and a representative of Interchurch Ministries of Nebraska.

In Spring of 1987 the workshop is being piloted in the southeast quarter of the state. Planning was done with a committee composed of representatives of the two sponsoring organizations and clergy from the pilot area. Because of relatively low registration, future workshops will be tied to the district conferences of each religious denomination instead of maintaining the inter-denominational nature of the pilot.

FUTURE USE OF COMPUTER TEMPLATE

The computer template developed by our group for helping rural families decide whether an off-farm job is beneficial is a welcome addition for this type of community education.

Community workers could better understand the irregular nature of self-employed income and the "trade-offs" of taking off-farm employment by using the template to "model" case studies. In addition, they could refer clients and parishioners to CES for use of the computer template in an actual decision making process.

REFERENCE

1. Monroe, M. N. "At Issue: Rural Family Stress." Journal of Home Economics 78, (Winter 1986). pp. 57-58.

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A CONSUMER POLICY FRAMEWORK: RECENT RESEARCH

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ABSTRACT

A consumer policy framework, consisting of elements of planning, rationales for intervention, governing instruments and representation and funding is discussed.

The consumer interest is complex. It frequently comprises a number of conflicting sub-interests and multiple goals. Because of this, an analytical and conceptual policy framework is needed if one is to be able to assess current consumer policy and effectively and rationally develop priorities and prepare legislative agendas for consumer policy.

FIGURE 1 Elements of a Consumer Policy Framework

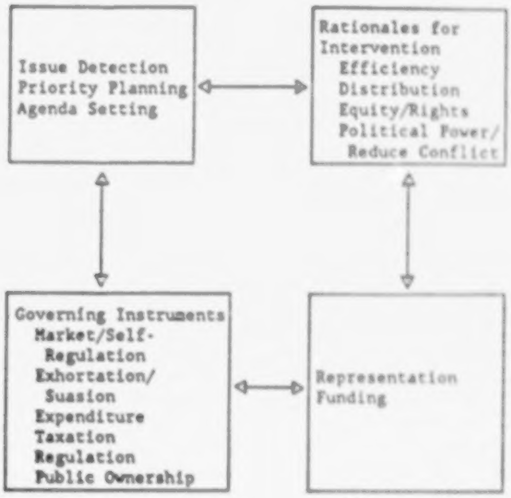

Figure 1 depicts the four elements of the consumer policy framework which are used as the structure for this paper. Its first element revolves around the problems of detecting and evaluating consumer problems. The second outlines rationales for consumer policy. The third describes the governing instruments which may be used to address consumer problems and the forces affecting choice of instrument(s). The final section discusses policy questions of consumer funding and representation. Examples illustrating these concepts are taken from countries in the OECD, the twenty-five developed countries, mainly in Western Europe and North America.

ISSUES, PRIORITIES AND AGENDAS

Consumer institutions, government and private, face the problem of deciding the how, what, when, where and why of their activities, as do other interest representation groups. They have limited resources and need to plan if they are to use those resources most effectively.

Issues

The detection of consumer problems comes about in a range of structured and unstructured ways. Something which affects consumers in sufficient magnitude to cause them to complain has been the historical source of issue detection. The establishment of the first weights and measures standards thousands of years ago no doubt sprang from just such complaints. Health and safety regulations of all kinds had similar histories and this avenue of issue detection will continue. In addition, both government and non-government investigations have been used to evaluate the nature and magnitude of consumer problems in a more systematic way. Consumer surveys, using a variety of data collection techniques, has been the general methodology for these efforts. [16; 2; 5] While these types of efforts are extremely useful in providing overviews of consumer problems, they are expensive, time consuming, and are not done on a continuous basis.

A number of activists interviewed would like to have an on-line system to record consumer problems as they arise and to help set agendas and priorities for legislation. Such a system exists informally in Europe with the Consumer Interpol network whereby consumer groups in the various countries, along with BEUC and IOCU (Bureau Europeen des Consommateurs and the International Organization of Consumers Unions), report consumer problems to each other on a regular basis. "There exists in England and Wales a system know as HASS (Home Accident Surveillance System) which systematically picks up data from emergency departments in hospitals on home accidents. This is used by the Consumer Safety Unit to help determine priorities." [17] Similar networks, established by food and drug ministries in various countries, could be considered consumer issue detection devices. A number of studies have shown that only a small percentage of people who are dissatisfied actually complain. Indeed, although we all have pre-conceived ideas about how and when people complain, there has been only a limited amount of research on the factors behind consumer complaining behavior. [11; 14] Therefore, consumer groups and agencies often use studies and other means to, in a proactive way, identify consumer problems which need attention.

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Priority Setting

A major problem facing policy makers is setting priorities and allocating resources to those concerns which they feel are the most needed. The decision should be one of cost/benefit analysis and involve a number of considerations which can only be outlined briefly here. The first question which must be addressed is the magnitude and severity of the problem. For example, the passage of consumer product liability legislation, whose absence may cost consumers millions of dollars annually, would have greater benefits than improving the present labelling on canned food. However, any benefits should be weighed against the costs of achieving them. Improved canned food labelling may be relatively inexpensive and easily attainable. However, because of intense business resistance and lack of commitment by governments, product liability legislation may be costly and impossible to obtain in the short run.

Another example is the setting and allocating of finite budgets across the multiple tasks of large consumer organizations. For example, Consumentenbond, the Dutch consumer organization, reports to a governing group composed of representatives of eighty local consumer organizations and other consumer groups. That group discusses problems and sets policy goals on a periodic basis for the one hundred and fifty staff employees of the organization. [19] BEUC engages in a similar policy planning process when its Council, composed of representatives of consumer organizations for each EEC country, meet and put together a Programme of Activities, which is in reality an eighteen month to two year resource and issue planning document. [3]

Agenda Setting

Agenda setting involves attempting to have particular issues raised by governments and put into the legislative stream, or more generally raising a particular for public debate. Whether or not it is depends on a number of circumstances. The government must be receptive, the public's interest must be obtained and the case must be prepared and ready for presentation. Contaminated cooking oil in Spain in 1981 which killed 386-650 consumers and maimed 25,000 provided the impetus for the expansion of the Spanish consumer organization, OCU, as well as for the establishment of increased government institutions and commitment by the Spanish government. [9, pp. 236-237; 12] Further, using resources to highlight issues, such as media activities, letter writing campaigns, dissemination of information in publications, and speeches and appearances all are part and parcel of lobbying and influence management and must be considered in agenda setting. And this is true for both government and private groups. Just as business groups in the United States were able to set their agenda and successfully defeat the bill to establish a Consumer Protection Agency, members of the European Economic Community consumer policy community have brought pressure on a number of governments and institutions to develop product liability legislation. To attempt to pass consumer legislation in the face of the business onslaught in the U.S. in 1978, given the attitudes of the federal government, would have been poor agenda setting. Consumer groups diverted their efforts to state governments who appeared more open to considering consumer policy questions. [13]

This brief introduction illustrates that a policy framework is not a cut and dried affair. Benefit-cost analysis is a useful tool to help set priorities, but its users know that it is a only a tool, subject to many problems of judgement, measurement and estimation. [24] Benefits for consumers frequently are costs for other groups, including politicians, who may not view the consumer interest in the same light as do its advocates. Budgets may be tight, ideology against new legislation or enforcement of existing legislation in the consumer interest may be high, or a number of more important items may appear on the political agenda to thwart efforts to address pertinent consumer issues. On the other hand, events frequently unfold so that the environment suddenly changes in the positive direction. But, unless the issues are understood and policy positions are prepared and ready to enter the public debate, an opportunity may be lost. Indeed, those wishing an issue's advancement may not recognize that the time is fortuitous unless they have done the necessary planning and preparation. That is, planning is the "anticipatory decision-making" which allows organizations to take advantage of opportunities when they arise.

RATIONALES FOR POLICY INTERVENTION

Rationales for intervention on behalf of consumers have been divided into four areas to facilitate discussion. [18; 22] The first three, improved economic efficiency, redistribution, and creating equity and rights, have been standard classifications for a number of years. The fourth, political rationales, is added because it is often cited as a rationale for intervention in the real world but not thought of as legitimate, for some reason.

Actions to Improve Economic Efficiency

The classic types of situations where intervention is felt to be justified includes market imperfections caused by lack of or distortions of information, uncompetitive or extortionate prices, lack of market accessibility and monopolistic market structures. High transactions costs, such as in information acquisition and analysis and in obtaining individual redress, are other major consumer concerns. The fact that some goods and services may be more logically treated as public goods, such as education and health care, may also fall under this rationale for intervention. Classic economic analysis predicts that intervention should increase the economic efficiency of the marketplace and lead to greater societal wealth. Whether it does or not depends, of course, on how the intervention is executed and the instrument(s) used.

Distributional Alterations

Actions to alter wealth, income, or consumption distributions are based on concepts of justice and equity held within a society. They are highly cultural in their roots, in that they are based on widely accepted beliefs that there are basic human needs to be met and that income, wealth and consumption of some minimal level of goods and services is the basic right of all members of the particular jurisdiction. The goals of policies under this rationale include redistributing income, ameliorating poverty and providing basic services such as education, health care, housing and transportation to those who cannot pay for them or who cannot acquire sufficient quantities of them in market transactions. Such distributional questions are usually contentious in their implementation, even if their goals are widely shared in principle, because they involve taking from one group and giving to another.

Actions to Affect Equity or Create Rights

Rights are non-market goods granted to individuals and groups by the government. Rights are what governments define them to be and which governments are willing to enforce when called upon to do so by individuals. [Adapted from 21] The demand of consumer groups for the establishment of a consumer bill of rights in a number of countries has been a campaign to create rights. These "social rights" for consumers represent a general understanding that without guaranteed access to justice in its broadest sense the ideals of democracy for a wide number of people are meaningless; they are in "legal poverty." [4, p. 183]

Many rights may be widely accepted in one group of societies when in others they may be highly controversial. For example, most OECD countries have universal medical care while the United States has a market-oriented system not considered appropriate in the other countries. [8, Chap. 14; 1]

Intervention for Political Reasons

Some intervention rationales are clearly justifiable on their political goals. As balancers of interests, governments, which in the final analysis are run by politicians, react to political desires to power and to the need to reduce conflict among groups within their jurisdictions. A number of the most ethical and far reaching rationales for intervention is "part of the continuing process of deciding what sort of a society we shall be -- how risk averse, how hospitable to entrepreneurial change, how solicitous of the vulnerable..." [23]

Reacting to political power and the need to reduce conflict among groups in society is a common rationale for intervention. A number of business and other interest examples can be found for each OECD jurisdiction and are left to the reader to supply. Defeat of the Consumer Protection Agency bill in the U.S in 1978 illustrates the business lobby's reaction to a potential government department protecting consumer interests at the federal level. [9, pp. 258-261] At another time society may wish for greater consumer equity and decide to implement truth-in-lending or any other measure with wide support from the electorate for that type of societal environment. Seldom are interventions based on only one of these four rationales. More generally, intervention is based on a combination of them.

Recognizing the bases which exist for intervention, the government must go through the following reasoning process:

- Is there a basis for intervention?
- If yes, are there instruments available which will rectify the problem?
- If yes, what other (political) objectives are pertinent, and will any of the available instruments satisfy those objectives?
- If yes, which instrument(s) do we actually use?

GOVERNING INSTRUMENTS

A number of "governing instruments" are available to governments with which to attempt to attain the goals of intervention. The concept of governing instruments is an important one in policy making, since it attempts to structure and consider the effects of using a particular instrument or group of instruments before their use, instead of implementing a policy and only after the fact recognizing their conflicting and often deleterious and unanticipated side effects. Yet, the use of the governing instrument approach will not answer all the concerns of policy makers. First, it would be naive to suggest that policy makers are able to identify and weigh all the effects of the instruments chosen. In particular, there is not perfect information about what is desired, nor what market failures exist, nor how the population might want wealth and rights distributed. In reality, there are competing interests providing slanted, incomplete information in order to influence policy and instrument choice. Second, there is a good case for suggesting that those involved in the policy process do not act solely with "public" or "societal" interests in mind. Self-interest is a common motivation for all parties involved.
In spite of their problems, the use of governing instruments provides an attractive starting point for policy making. Their use require the attempt to provide concrete, identifiable, measurable outcomes of the policy intervention. The attempt to determine how their use will achieve a goal, or in the case of hindsight, how effective their use has been, provides a much better approach than the ad hoc methods used previously. In addition, governing instruments are both a means and an end in the policy process. That is, certainly they are techniques to carry out a policy objective, but at the same time they represent an outcome of the process itself and indicate what was politically possible at the time they were passed. This provides insight into the difficulties of intervention which may help in future decisions. In other words, they provide a structured approach

to the complex process of policy making which, until recently, was thought not amenable to structured planning and analysis.

Definitions of Governing Instruments

Table 1 orders governing instruments on a spectrum of the degree of legitimate coercion which each instrument implies. They range from the least coercive forms of self-regulation and exhortation/suasion to the most coercive measures of regulation and public ownership. Where coercion increases, the instruments usually involve sanctions or penalties to back the desire by government to elicit certain behavior.

TABLE 1 Governing Instruments

SELF-REGULATION	market operates or self-regulation
EXHORTATION/ SUASION	pure political leadership, mass suasion, consultation leading to co-option, use of confidential information, monitoring and information disclosure, suasion with inducements (corporatism)
EXPENDITURE	as an employer, monetary and fiscal policy, grants, tax expenditures, loan guarantees, social programs and transfers, subsidies
TAXATION	non-tax revenues (e.g., royalties), taxes, tariffs, rules, (e.g., quotas, standards), fines, guidelines
REGULATION	restrictions, guidelines, rules, fines, sanctions
PUBLIC OWNERSHIP	government agencies, crown corporations

SOURCES: [25; 6; 22]

A brief discussion of the major governing instruments affecting consumers in OECD countries serves to illustrate the concept. Interested readers are directed to the sources cited on the table for more details. Joop Koopman, Director of Consumer Policy in The Netherlands, suggests three levels of instruments which range from governments providing for basic rights, self-regulation and actions between consumer groups and business. [15]

Self-regulation

Self-regulation and letting the market operate implies no government intervention. However, self-regulation must operate in an environment which has a number of rules, such as weights and measures, health and safety regulations, information disclosure, fraud and the like. Since there are many rules in force, one must evaluate it use in the context of the environment of rules in which it must operate. In the case of self-regulation, such as that for professional bodies and labour unions, where coercive legislation requires membership, dues payment plus members conforming to rules set by the governing body, consumers have a real concern because have little say in the operation of these bodies, whose rules can have profound effects on the consumer interest. Self-regulation implies a good deal of freedom for the regulated group to manage its own affairs, but it usually insulates the group from many market forces and from effective political control.

Exhortation and Suasion

Exhortation and suasion are a commonly used form of intervention which runs the gamut from simple exhortation by politicians to the corporatism schemes whereby governments have permitted a close relationship and liaison with labour and business in Europe in the planning of economic development, incomes, employment and social policy. [20]

Expenditure

As an employer, governments expend tax money for consumer purposes through the funding of government institutions which represent and protect consumers -- consumer ministries, safety and health enforcement and the like. Some governments, such as France, Germany, Denmark and Sweden, finance government testing and information programs to a much greater extent than do other OECD countries. Many countries, in one way or another, subsidize private consumer groups in a variety of ways. The problem of co-option is a concern of many consumer activists, but the funds are welcome and they are hard to resist.

Taxation

Taxation has usually affected consumers' interest representation and policy advocacy in a negative way. Consumers' major adversaries, business and other special interest groups, are permitted by the tax laws in most countries to deduct most advertising and lobbying expenses from before tax income. Consumers, on the other hand, support their groups with after tax revenues. Further, laws governing tax exempt or charitable institutions, which provide for tax credits on donations, result in de facto restrictions on consumer lobbying activities.

Regulation

Many of the measures sought by consumer ministries and consumer organizations involve the passage of legislation which regulate and restrict the behavior and activities of manufacturers and sellers to the benefit of consumers. Weights, measures, safety and health legislation, information disclosure rules and the restriction of anti-competitive behavior are all intervention instruments which fall into this classification. Many of them are designed both to improve economic efficiency as well as to ensure consumer rights. Where sectors of society are regulated, either by governments or by self-regulatory bodies, consumers want to ensure that their interests are included in regulatory decisions. Experience has shown consumer groups that effective power -- voting rights and more than token membership -- plus the resources to develop their case is a prerequisite to any real influence in regulatory matters.

Public Ownership

Consumers are vitally concerned with their ability to ensure the consumer interest is represented when the government decides that public ownership is an appropriate governing instrument. Publicly run telecommunications and transportation systems, broadcast media, postal services, power utilities and a variety of country-specific public ownership situations may provide areas of concern for consumers. The immediate situation consumers desire to remedy is frequently similar to that of regulation, providing for effective consumer interest input. In the long run, consumers may advocate for a level of privatization or institutional modernization which attempts to obtain goods or services more appropriate to consumers' needs and to changing conditions. This has been exhibited in the air transport and some telecommunications situations. However, the process of attempting to change established government institutions is frequently volatile and controversial, fraught with ideological conflict even within many consumer organizations. I hasten to point out that many public enterprises are valued by consumers and appear to have stood the test of time as effective governing instruments. Postal service, police and fire protection and health services are examples.

CHOOSING GOVERNING INSTRUMENTS

Choosing governing instruments can be very political. It is assumed that the actors in the choice process -- politicians, voters and other interests -- act in their rational self-interest. That is, the normative goals of economic efficiency, a just distribution of wealth and income, and so on, are not directly goals of the actors, although they may very well end up as outcomes or by-products of the process. This drive of self-interest, in combination with imperfect knowledge of the costs of obtaining and analyzing information, results in a bargaining process for information and policy favours analogous to economic markets. This is, of course, a simplistic and limiting view of the process, but it is a useful analytical technique.

Rational self-interest means for the various actors that: politicians have as a primary goal their re-election; political parties wish to maximize their votes, particularly by focussing on marginal voters in swing ridings; voters maximize their utility, viewing political activity as an investment in future benefits, basing their decisions on past performance; and interest groups focus on the magnitude and permanence of possible benefits and on the costs necessary to obtain them. Information on how policy decisions affect voting is the valuable commodity sought by politicians and political parties. However, except for very special issues which are usually not the normal fare of advocacy activities, it is almost impossible to relate policy decisions to voter behavior. In this regard, those interests with resources have more political power and will use that power to increase their resource base. Hence, over time, the lobbying and electoral processes will tend to increase inequalities in bargaining power and the distribution of wealth. Second, voter ignorance on an individual level becomes rational, because the costs of informing oneself on issues or of participating actively in the process are greater than the benefits received from a single vote. However, recognizing the collective benefits to efficient information use in the policy process, individuals join or support influence groups to use their collective power to influence policy. (Forbes 1985)

TABLE 2 Factors Affecting Instrument Choice

Criteria	Comment
Costs	monetary, non-monetary, social, political, administrative
Efficacy	does it work, can goals be achieved
Targetability	selectivity of cost/benefit distribution
Signalling Capacity	ability to show economic or political value of the instrument
Symbolic Capacity	symbolic/ideological content; role of government in society, party ideology, electorate ideology
"Fog Factor"	ability to disguise true objective, avoid political flak
Reversibility	ability to withdraw
Modifiability/ Flexibility	re: targets, scale, cost/benefit distribution
Speed of Implementation	
Accountability	budget, committees, etc.
Monitoring Cost - Politician - Voter	
Legality	
Constitutionality	

SOURCE: [Adapted from 22]

Factors affecting the choice of instruments vary from costs of all kinds to the more difficult to measure, but no less important, judgemental and political considerations. Table 2 presents a listing and comments about factors which influence particular governing instrument choices. The choice of specific instruments is often a complex political bargaining process. The outcome of that process may be less than optimal once the tradeoffs among the parties involved are completed. However, those are the facts of life in representative democracies. Politicians, faced with conflict between opposing groups, for example consumers and business firms, best satisfy their own political goals if they can find a solution which satisfies both groups. Of course, explicit goals may be mutually exclusive and thereby in conflict. But, if a solution can be found which symbolically satisfies the objectives or goals of one group without affecting the other group negatively, the politician would have satisfied his or her own goals. It is hypothesized that regulatory bodies do just that: consumers perceive the body as protecting them, while regulatory capture of the regulators by the regulated protects the regulated group. Everyone feels they have won; of course, somebody may have to lose, and in too many cases in consumer policy it seems to be the consumer, at least in the short run.

The way in which ideology affects the choice of instrument can be seen at two levels. On a broad level we can see that there are differences between countries in the perception of the role of government in the marketplace. The U.S., France and the U.K. in recent years, tend to believe less government is better. In Canada, Germany, Sweden and other European countries, however, there is much less concern about government intervention where apparent justification for such intervention is perceived. Of course, I expect many would disagree with these generalizations and I would not always quarrel with them, since they are generalizations. Even within a country, we cannot overlook the ideology of individuals and, most importantly, political parties. Hence, although we recognize that the U.S. is less inclined to government intervention, the Democrats are somewhat less concerned about this than are the Republicans. A further complication to this is the role that the political system itself plays. In a parliamentary system, such as that in Canada and the U.K., the party line is strictly followed, and the party in power has the ability to pass, within reason, whatever legislation it introduces. In the U.S., where the split of executive and legislative powers and the complex committee system lead to a considerable amount of bargaining between even the individual politicians involved, the party ideology may be less important than that of the individual legislators who occupy pivotal power positions.

Finally, there are various constitutional, legal, and administrative constraints on the choice of instruments. Most actions, for instance, face constraints because of the separation of federal (national), state and provincial and local governmental power and the jurisdictional disputes which inevitably result. These problems are multiplied many times in the case of supra-national governments and organizations, such as the EEC and the United Nations. Further, the best laid plans and policies may be thwarted by simultaneous actions elsewhere in the bureaucracy or outside one's national borders.

GROUP REPRESENTATION AND FUNDING

Consumer group funding and representation are critical in policy planning and implementation. Businesses do not engage in influence activities without expecting they will receive a payback for those expenditures nor do professional groups and trade unions.

Consumer groups, on the other hand, produce "public goods" financed by their members. Consumer group members are always a relatively small portion of the total jurisdiction they represent. The "public goods" the consumer groups obtain are free most generally to members and non-members alike. Examples include lower air fares as a result of consumer influence activities, improved labelling legislation, less restrictive food policies and the like. Non-members are "free riders" in the sense that they receive the benefits from consumer group activities but have not paid any of the costs. A different example of a public good was shown by Dunn and Ray. In a major study of the benefits and costs of local consumer information systems commissioned by the National Science Foundation in the U.S., they estimated savings of one hundred billion dollars annually (1979 prices) from improved local consumer information systems. Costs for such systems were estimated to be only a "small fraction of the benefits." [7] With such strong evidence of an economic welfare and efficiency rationale, one wonders whey the recommended a market provided solution rather than the obvious public funding indicated.

However, these types of funding questions are highly ideological in nature. Further, since all governments have finite resources and many conflicting demands on them, only portions of some consumer information, advocacy and representation activities receive public funding even though they result in producing public goods. This is due to a variety of reasons. The structure of consumer representation in the OECD countries is highly variable, a result of history and of the political practice of the country or institution involved. The range of organizational forms and funding vary across the spectrum from no private consumer groups, with government organizations representing the consumer interest, as in Denmark, Sweden and Germany, to little government support, with almost completely privately funded consumer groups, as in the United States, to ineffective or non-existent consumer representation of any form as in Greece and Portugal. France, the United Kingdom and Canada fall in the middle with a mix of private and government organizations and funding.

In some countries, there has been a recognition that if public goods result from the efforts of consumer pressure groups then some means to reimburse such groups for the costs of these activities is fair. For example, the costs of interveners in some regulatory hearings in Canada and the United States may be reimbursed by the regulatory agency. However, this type of funding is far from universal and is open to changes in government attitudes.

The question one would like to have answered is whether or not the source of funding and the effectiveness of consumer representation are related. That is the subject for future research and is commented on elsewhere. [9]

CONCLUSIONS

As consumer representation groups become more mature, they stand to benefit from planning agendas and from developing support for rationales to substantiate the need for government intervention, or, conversely, non-interference, on their behalf. Cost/benefit analysis and analyzing policy interventions on a governing instruments continuum applied to consumer policy issues has the potential for better understanding how different policy alternatives affect the attainment of consumer policy objectives. A continuing topic for policy debate will be the appropriate mix of private and public funding of consumer activities, especially for those activities with a large public goods component to them.

REFERENCES

1. Abel-Smith, Brian (1985) "Who is the Odd Man Out?: The Experience of Western Europe in Containing the Costs of Health," Milbank Memorial Fund Quarterly, 63:1, pp. 1-17.

2. Best, Arthur, and Andreasen, Alan R. (1977) "Consumer Response to Unsatisfactory Purchases: A Survey of Perceiving Defects, Voicing Complaints and Obtaining Redress," Law and Society, 12 (Spring), pp. 701-742.

3. BEUC (1984) Programme of Activities. Brussels: Bureau Europeen des Unions de Consommateurs, Oct. 5.

4. Cappelletti, Mauro, and Garth, Bryant (1978) "Access to Justice: The Newest Wave in the Worldwide Movement to Make Rights Effective," Buffalo Law Review, 27, pp. 181-292.

5. Claxton, John D., and Ritchie, J. R. Brent (1981) Consumers' Perceptions of Prepurchase Shopping Problems and Solutions: Major Findings and Directions for Action. Ottawa: Consumer and Corporate Affairs Canada.

6. Doern, B. G., and Phidd, R. W. (1983) Canadian Public Policy, Ideas, Structure, Process>. Toronto: Methuen.

7. Dunn, Donald A., and Ray, Michael L. (1980) "A Plan for Consumer Information System Development, Implementation and Evaluation," in Jerry C. Olson, ed., Advances in Consumer Research, Vol. VIII. University Park, PA: Association for Consumer Research.

8. Evans, R. G. (1984) Strained Mercy: The Economics of Canadian Health Care. Toronto: Butterworths.

9. Forbes, J. D. (1987) The Consumer Interest: Dimensions and Policy Implications. London: Croom Helm, in press.

10. Forbes, J. D. (1985) "Organizational and Political Dimensions of Consumer Pressure Groups," Journal of Consumer Policy, 8, pp. 105-131.

11. Forbes, J. D., Tse, David K., and Taylor, Shirley (1985) "Towards a Model of Consumer Post-Choice Response Behaviour," in Richard J. Lutz, ed., Advances in Consumer Research, Vol. XIII. Provo, UT: Association for Consumer Research, pp. 658-661.

12. Globe and Mail (1987) "Toxic-oil victims stone defendants in Madrid," Mar. 31, p. A8.

13. International Management Review, (1980) "The Consumer Movement Finds Going Tougher," July, pp. 34-35. Interview with Ralph Nader.

14. Ison, Terance G. (1979) Credit Marketing and Consumer Protection. London: Croom Helm Ltd.

15. Koopman, Joop (1986) "New Developments in Government Consumer Policy: A Challenge for Consumer Organizations," Journal of Consumer Policy, 9, pp. 273-277.

16. National Consumer Council (1981) An Introduction to the Findings of the Consumer Concerns Survey. London: National Consumer Council.

17. Ramsay, Iain, personal correspondence, June 23, 1986.

18. Ramsay, Iain D. C. (1984) Rationales for Intervention in the Consumer Marketplace. London: Office of Fair Trading, (Dec.).

19. Recter, Thomas, Consumentenbond, The Haag, personal interview, May 14, 1985.

20. Schmitter, F. M. (1982) "Reflections on Where the Praxis of Neo-Capitalism Has Gone and Where the Praxis of Neo-Capitalism May Be Going," in Suzanne Berger, ed., Organizing Interests in Western Europe: Pluralism, Corporatism and the Transformation of Politics in Western Europe. New York: Press Syndicate of the University of Cambridge, pp. 285-327.

21. Stanbury, W. T. (1984) "The Normative Bases of Government Action," Background Paper (Vol. 2), for testimony to the Ontario Commission of Inquiry Into Residential Tenancies. Vancouver, BC: Faculty of Commerce and Business Administration.

22. Stanbury, W. T., and Fulton, Jane (1984) "Suasion as a Governing Instrument," in Allan M. Maslove, ed., How Ottawa $pend$, 1984: The New Agenda. Toronto: Methuen, pp. 319-324.

23. Stewart, Richard B., and Sunstein, Cass R. (1982) "Public Programs and Private Rights," Harvard Law Review, 95:6, p. 1238.

24. Sugden, R., and Williams, A. (1978) The Principles of Practical Cost-Benefit Analysis. Oxford: Oxford University Press.

25. Trebilcock, M. J., Hartle, D. G., Prichard, R. S., and Dewees, D. N. (1982) The Choice of Governing Instruments. Ottawa: Economic Council of Canada.

RELATIONSHIPS AMONG CONSUMER INTERESTS AND OTHER INTERESTS: SOME IMPLICATIONS FOR CONSUMER POLICY

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ABSTRACT

This paper is focused on different patterns of common and conflicting interests, among consumers, between consumers and business, and between consumers and government. Eight such patterns of interest relations are identified, and consumer policy implications of each pattern are discussed.

INTRODUCTION

The purpose of consumer policy is to advance consumer interests. This may be done in alliance or in conflict with other interests in society. Thus, it is argued in this paper that models and strategies for consumer policy should be examined and evaluated in the light of interest relations among consumers as well as between consumers and other actors, such as business and government.

The idea is that both similar and different interests, both common and conflicting interests, may be found among consumers as well as between consumers and other actors. The constellation, or pattern, of such interest relations may vary, not only between different countries, but also between different issues and situations within a country. Furthermore, various individuals or groups may have different perceptions or assumptions of such constellations. One implication of these variations is that it may be adequate to develop different models and strategies for consumer policy, depending on the specific patterns of interests involved in various issues and situations.

With this background, it is the purpose of the present paper to suggest a typology of models and strategies for consumer policy. The typology is based on a classification of eight different constellations of interest relations. For each constellation the following question is discussed: Assuming that this constellation exists, what seems to be the most adequate consumer policy? This discussion refers to examples from consumer policy in different countries.

Before the typology is presented, however, some major concepts and assumptions regarding interest relations will be discussed.

CONSUMER INTERESTS AND OTHER INTERESTS: SOME CONCEPTS AND ASSUMPTIONS

Broadly defined, consumer policy includes any model or strategy which is intended to advance consumer interests. Such models or strategies may be developed by consumers themselves or by other actors, on behalf of, or for, consumers. Other actors, acting on behalf of consumers, may include both public agencies and private organizations.

The concept of interest may be defined in different ways. The definition used here is common in sociology and political science. According to this definition, interest refers to whatever is profitable to a group, or whatever helps this group get what it wants or what it (eventually) will find satisfactory [6, pp. 343-344]. There is a conceptual distinction between wants, which are defined "subjectively," and interests, which are defined more "objectively," [12]. Thus, we may be more or less aware, or more or less conscious, of our "true" interests [6].

The consumer interest is very difficult to define. It has been pointed out that this interest is diffuse and has low intensity [12]. Furthermore, the consumer interest has been described as complex [5, 20], and fractionalized [19]. Brown [1] maintains that the consumer interest may be ambiguous because the consumer assumes multiple roles and deals with a large number of goods and services.

Due to this heterogeneity of the category of consumers, there are a number of different or conflicting interests among consumers [5, 9, 20, 19, 1]. Each consumer may have internal role conflicts, for example between his/her interests as a consumer and his/her interests as an employee. Conflicting interests may be found between individual consumers competing to purchase the same house or other scarce goods. Furthermore, interest conflicts may emerge between different groups of consumers, such as private car owners and users of public transportation.

On the other hand, there are a number of situations in which consumers have common interests [20, 19]. It is possible to identify three different types of situations involving common interests among consumers. These types of situations correspond to three general forms of collectivities in society, which have been described by Osterberg [13]. The first type of situation is characterized by abstract identity: All consumers involved have a common, identical feature, and they are all aware of this. Individual buyers in the same market exemplify such a common feature. The role of buyer is usually perceived as common, although the shopping activities are performed individually. Another type of situation is described as a concrete, positive collectivity. Members of such collectivities do not only have a common feature. Through socialization they have also developed certain common norms and values. Consumer cooperatives may be regarded as collectivities of this kind, when actively supported by their members. The third type of situation concerns collectivities based on conflicts. Consumers belonging to this kind of collectivity have in common a conflict with other actors. The internal relations within the collectivity are developed through the common external conflict. Organized boycott actions against certain products or certain companies are examples of such conflict-based collectivities.

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Thus, the relationships among consumers are characterized by both common and conflicting interests. Basically, these interests are determined by the consumers' roles as buyers of goods and services, and by their relationships to the sellers of these goods and services. Essentially, these buyer-seller relationships are characterized by conflicting interests. Consumers are interested in satisfying their needs, usually by purchasing the necessary products with the highest possible qualities and the lowest possible prices. Sellers, or business actors, are interested in increasing their profits, by selling products in the largest possible quantities and with the highest possible prices. In spite of this general contradiction, however, consumers and business do not always have conflicting interests. There are many examples of alliances between consumers and business actors, based on common interests in special issues. Conflicting interests among sellers may facilitate the development of such alliances. For instance, consumers and small retailers may have common interests in supporting neighborhood stores in their competition with larger companies, which are favored by the concentration tendencies in the distribution system [3].

The possibilities of pursuing or advancing consumer interests are also determined by the relationship between consumers and the government, or governmental agencies, which regulate the conditions under which selling and buying are performed. The interests of governmental agencies are even more difficult to identify than consumer interests. First, it may be questioned whether governments have their own separate interests at all. While liberal schools of thought tend to consider the government as a moderator among different interests, more critical schools of thought regard the government as a tool in the hands of the ruling class. Second, governments do not only regulate business activities. They often run their own business, in which case government interests and business interests are identical. Third, sometimes different interests seem to be advanced by different governmental agencies. In any event, it seems possible, and important, to examine the relationship between consumer interests on a certain issue, and the interests which are advanced by specific governmental agencies on that particular issue. Such examinations may reveal both common and conflicting interests between consumers and governmental agencies.

Thus, various types of consumer policy may be identified with reference to different constellations of common and conflicting interests, among consumers, between consumers and business, and between consumers and government.

Although the present paper is focused on these relationships, a number of other interest relations may also be relevant for consumer policy. For example, consumer interests can be advanced in alliance or in conflict with such actors as labor organizations, mass media, and political parties. In more thorough discussions of consumer policy related to specific situations or issues, all such relationships should be taken into consideration. However, the purpose of this paper is to discuss a general typology of basic models and major strategies for consumer policy. For this purpose it is reasonable to concentrate on consumers' relations to business and government, which are the most important actors.

As pointed out above, different or conflicting interests may be found within business and within government. Thus, it may sometimes be adequate to discuss different interest relations between consumers and business, as well as different interest relations between consumers and government. In a consumer policy context, however, some business or government actors are less relevant than others, and some of the relevant actors are less important and powerful than others. Discussions of models and strategies for consumer policy can therefore focus on those business actors and governmental agencies which are most relevant and important. This will probably lead to less ambiguity in the interest relations between consumers and business, and between consumers and government. If conflicting interests within business or government still are relevant and important in relation to consumer interests, it is reasonable to discuss separate consumer policy models and strategies with regard to each of these business interests or government interests. Distinctions among such separate strategies can be found in the typology to be presented in the next section of the paper.

A TYPOLOGY OF CONSUMER POLICY

As suggested above, consumer policy should primarily be discussed in relation to patterns of common and conflicting interests, among consumers, between consumers and business, and between consumers and government. As shown in Figure 1, we may distinguish among eight different patterns, or constellations, of interest relations. A plus sign in this matrix indicates common, or similar, interests, while a minus sign means conflicting, or different, interests. For each constellation of interest relations one basic model and one major strategy are identified in the matrix. In the following, these models and strategies will be described and exemplified.

FIGURE 1. A TYPOLOGY OF MODELS AND STRATEGIES FOR CONSUMER POLICY

Interest Relations			Implications for Consumer Policy	
Among Consumers	Between Consumers and Business	Between Consumers and Government	Basic Model	Major Strategy
+	+	+	Consumer Organization in cooperation with Business Organizations and Governmental Agencies	Collaboration
+	+	-	Consumer Organization in cooperation with Business Organizations	Negotiation
+	-	+	Consumer Organization in cooperation with Governmental Agencies	Lobbying
+	-	-	Consumer Organization	Countervailing Power
-	+	+	Governmental Agencies in cooperation with Business Organizations	Paternalism
-	+	-	Business Organizations	Self-Regulation
-	-	+	Governmental Agencies	Protection
-	-	-	Market Mechanism	Competition

+ Common, or similar, interests
- Conflicting, or different, interests

When Consumers are United

Four of the eight patterns of interest relations refer to common interests among consumers. The common interests provide a basis for collective, organized consumer action. Whether or not such collective action will be organized, depends on a number of factors, including consumers' consciousness of their common interests. The role and purpose of collective consumer action depend on the relationships between consumer interests and other interests.

Common interests with both business and government. The first pattern consists of common interests among all relevant actors. This constellation is characterized by harmony, and the opportunities for consumer influence are good. Given this constellation, it seems reasonable to rely on cooperation between the consumer organization, business organizations, and governmental agencies as a basic model for consumer policy. Thus, collaboration seems to be most adequate as a major strategy. This type of consumer policy is described by Koopman [8] as one of three levels of consumer protection. It is assumed that consumer organizations and business organizations should arrive at adequate consumer protection through self-regulation, based on more or less consultation and negotiation. The government supervises and watches the development, and supports and stimulates this process in various ways. Only if the collaboration does not work, the government will use more regulatory measures.

The state support to small stores, which was introduced in Scandinavia in the 1970s, is an example of this collaboration strategy [4]. The background was the increasing concentration process in the retail distribution system after World War II. Many small neighborhood stores had to close. For consumers this meant increasing distances to the stores. The development led to substantial problems for many groups of consumers, such as elderly, disabled, and other groups with mobility or transportation problems. It was in the consumers' interest to stop, or to decrease, the concentration process. Consumer agencies collaborated with retailers' associations, especially those representing small retailers, on actions to keep small stores in business. Local consumer groups were organized to support these actions, including stimulating and motivating consumers to use their neighborhood stores and be loyal to them. The government took part in the collaboration and came up with a number of support measures to small stores, including a variety of financial support to such businesses [3].

Such collaboration strategies are developed more systematically in West Germany, in the area of product information and labelling [17]. Since 1978 a number of rules regarding content and comparability of product information to consumers have been developed by special federal committees, where business, consumer organizations and the government are represented. Decisions are made on the basis of complete consensus, rather than majority. There are no laws about these issues, except for certain food products.

Common interests with business, and conflicting interests with government. The next pattern reflects that consumers have a positive relationship to business, and a negative relationship to government. With this constellation the most adequate model seems to be cooperation between the consumer organization and business organizations, and the major strategy for this cooperation is assumed to be negotiation. The purpose is to influence business organizations by convincing them of how they should advance their own interests. Thus, the consumer interests would also be pursued, since consumers and business have common interests. This constellation provides a realistic basis for building alliances between consumers and business. Such alliances might lead to self-regulation among business actors or joint consumer-business pressure on the government. Koopman [8] describes this policy as a level of protection where the responsibility rests exclusively with business and consumer organizations.

This strategy of building alliances with business may take advantage of the fact that there are conflicting interests among different segments within business. That was the case in an example of consumer policy in the United States, discussed by Vogel and Nadel [20]. The example refers to the Sugar Act of 1937. This act was a form of trade protectionism. In addition to quotas on import, it established subsidies to domestic producers, financed by a tax paid by manufacturers on the processing of sugar. Thus, the domestic price for sugar in the U.S. was higher than the world price. Consumers were interested in removing the Act to obtain lower prices. In this case consumers had conflicting interests with domestic producers of sugar, but common interests with those business actors who processed sugar. The latter actors had to pay high prices for the sugar they purchased for processing, and they also had to pay high taxes to the government. Apparently, the government was interested in keeping the Act for receiving the taxes and maintaining the domestic sugar production. In 1974 the Sugar Act was up for renewal. Then a strong alliance had been developed between the consumer interests and the business interests of sugar refiners and export-import firms. Due to the pressure from this alliance the Act was defeated. As pointed out by Vogel and Nadel [20, p. 18]: "It was not simply a case of consumer pressure for lower prices prevailing--at least not directly. Rather, the consumer interest in lower prices prevailed when it coincided with extremely important industrial interests."

Common interests with government, and conflicting interests with business. If consumers have a positive relationship to government and a negative relationship to business, the adequate model seems to be cooperation between the consumer organization and governmental agencies. The major strategy for the consumer organization appears to be lobbying. Again, the idea is to build alliance with some actors against others. In this situation, governmental agencies would be the most realistic alliance partners. As pointed out by Milbrath [10, p. 8], lobbying may be broadly defined as "...the stimulation and transmission of a communication, by someone other than a citizen acting on his own behalf, directed to a governmental decision-maker with the hope of influencing his decision."

In general, the aim of consumer lobbying is to influence governmental agencies by convincing them of what is the most adequate and efficient policy for controlling business and protecting consumers. Lobbying seems to be a frequently used strategy for consumer policy in the United States, especially by Ralph Nader and other new activists in the consumer movement [12].

Conflicting interests in relation to both business and government. For Nader and others of these activists, however, lobbying is only one among several strategies to be used. They do not always see the relations between consumers and government as being characterized by common interests. Sometimes they see conflicting interests in relation to both business and government. Government is considered to serve business more than consumers and the public [2]. With this constellation of interest relations, the consumers have to rely on their own forces. The basic model refers only to the consumer organization, which will have to develop countervailing power as a major strategy. Because of conflicting interests, neither business nor government is a likely alliance partner. However, in order to develop significant countervailing power, it may be important for the consumer organization to build alliances with other relatively powerless groups in society, such as labor organizations, environmental groups, etc. Mass media may also be utilized, to increase consumers' consciousness of their common interests, and to mobilize them for participation in collective action [7].

An example of this strategy is a boycott action against oil companies in Norway in 1985 [15]. In spite of the fact that Norway now is an oil producing nation, the Norwegian gasoline prices are among the highest in the world. Over the past years the prices also used to increase rapidly. Usually, all oil companies announced their price changes almost simultaneously, and their major arguments referred to increases in the oil prices and in the value of the American dollar. Whenever the oil prices or the dollar value went up, the gasoline prices were also increased. However, when the oil prices or the dollar value went down, nothing seemed to happen to the Norwegian gasoline prices. The consumers were interested in more reasonable prices, and more and more consumer protest was articulated. The government also expressed its concern about the price development. However, it did not seem to be able to change the situation. The Norwegian government at the time believed very much in competition as beneficial for consumers, and it appealed to the multinational oil corporations: "Please, let the competition work." It is evident, however, that some of the government interests involved in this issue were in conflict with the consumer interests. First, the Norwegian gasoline is heavily taxed, and the tax is calculated as a percentage of the price. Thus, price increases mean higher tax income for the government. Second, the government is itself a business actor in this sector. A state oil company is substantially involved in production and distribution of oil and oil products. Consequently, price increases also mean more profit for the government's oil business. The Norwegian Automobile Association, which represents the automobile consumers, tried different strategies. Neither negotiation nor lobbying was efficient, due to the conflicting interests with business and government. Then, in the Spring of 1985, after the major oil companies had announced another substantial increase in the gasoline prices, the Automobile Association organized a boycott of all major oil companies and appealed to all car owners to purchase gasoline only from a relatively small and state owned company. The boycott was quite effective, and after some time the oil companies promised not to put into effect the price increase that had been announced. Moreover, since this boycott, the oil companies seem to have been more careful with price increases and more responsive to consumer protests.

When Consumers are Divided

The last four patterns of interest relations refer to conflicting, or different, interests among consumers. The lack of common interests means that it is difficult for consumers to develop organized, collective action. Typically, there is no consumer organization, and the consumer movement is weak.

Some of the constellations pointed out in the lower half of Figure 1 may seem somewhat paradoxical. Although different interests exist among consumers, some of the relationships between consumers and other actors may be characterized by common interests. The key idea in this connection is that other actors, such as business, or government, or both, are assumed to be able to identify, interpret, aggregate, and represent what they find to be the overall, or dominant, consumer interests. These other actors are assumed to do this on behalf of, or for, the consumers. For example, Nadel [12, p. 238] points out that, because of the diffusiveness of the consumer interest, it is ultimately the government that defines this interest.

Common interests with both business and government. When consumer interests are assumed to coincide with business interests as well as with government interests, it is legitimate for both business and government to act on behalf of consumers. Both actors are considered capable of advancing consumer interests. Cooperation between business organizations and governmental agencies is therefore identified as the basic model for consumer policy. The major strategy is a kind of paternalism, which, according to one dictionary [18, p. 909] may be defined as a "...practice of treating or governing people in a fatherly manner, especially by providing for their needs without giving them responsibility."

For example, in England business organizations and governmental agencies cooperate regularly and systematically on the development of so called Codes of Practice [17]. These codes are specific rules related to the Fair Trading Act of 1973. The codes regulate marketing activities regarding various groups of products. Thus, they are highly relevant for consumer interests, even though no common interests on these issues seem to be articulated or expressed by consumers themselves.

Common interests with business, and conflicting interests with government. The next pattern reflects a positive relationship between consumers and business and a negative relationship between consumers and government. Business actors are assumed to understand and represent consumer interests. The basic model refers to business organizations, which may advance consumer interests by pursuing their own interests. The major strategy is self-regulation, initiated and implemented by socially responsible business actors.

The establishment of product standards is an example of one area in which self-regulation has become a common practice in many countries [14]. Business corporations and organizations develop their own standards and rules regarding a number of product characteristics, including safety, size, style, quality, and performance. It is obvious that strong consumer interests are involved in such standards, although these interests may differ among different consumer groups. Typically, the idea is that business and consumers overall have common interests in finding the right balance between the consumers' rights regarding product qualities, and their rights regarding variety and freedom to choose and consume. It is believed that more government regulation of product standards would lead to more restrictions with regard to product availability and consumer behavior as well. This is considered to be in conflict with consumers' overall and dominant interests.

Common interests with government, and conflicting interests with business. When consumers have a positive relationship to the government and a negative relationship to business, various governmental agencies are assumed to take the responsibility for advancing consumer interests. While such agencies represent the basic model for consumer policy, the major strategy is protection. This policy is described by Koopman [8] as basic protection. Special governmental agencies are established to protect consumers against business. It may also be assumed that consumers should be protected against detrimental consequences of their own behavior, and that weak consumers should be protected against strong consumers.

This protection policy includes a number of means, such as mass media communication, laws and rules, regulation efforts, and controlling agencies. Consumers may, for example, be warned against certain drugs or other products that might be dangerous to use, or it may be prohibited to sell, or to buy, such products. Such protective measures are important elements of the consumer policy in a large number of countries, including the United States [11].

In some countries, government protection is the major form of consumer policy. For example, in the Scandinavian countries, consumer protection seems to be an important element of the general profile of the welfare state. In these countries the consumer policy is almost exclusively the government's responsibility. Thus, there is no such general consumer organization as the British Consumers' Association or the Dutch Consumentenbond.

Conflicting interests in relation to both business and government. The last pattern of interest relations pointed out in Figure 1 is characterized by fragmentation. All relevant relationships are dominated by conflicting interests. It is assumed that social relationships are determined by self-interests rather than common, or collective, interests. Each single actor is assumed to pursue his or her own self-interests. This is the typical idea about the market economy. Thus, with this constellation, the market mechanism is emphasized as the basic model and competition is indicated as the major strategy for consumer policy [16]. The assumption is that when everybody pursues the pure self-interest, the outcome will be good, not only for each individual actor, but also for society at large. Furthermore, it is assumed that when there is real competition among different actors, the consumers will be sovereign in the marketplace. Because of this consumer sovereignty, no special consumer protection is needed. The marketplace is assumed to offer sufficient alternatives, and the consumers are assumed to know how to select those products which best meet their needs.

In the past few years this idea of competition as a major strategy for consumer policy has been strengthened in many countries, including the Scandinavian countries. This increasing emphasis on market competition, at the expense of consumer protection, seems to be an important element in a more general political program of deregulation.

CONCLUSION

The purpose of this paper has been to suggest a multi-strategy perspective on consumer policy. The idea is that it may be adequate to develop different models and strategies for consumer policy, depending upon the specific patterns of interests involved in various issues and situations. Thus, a typology of consumer policy has been developed, based on a classification of eight different interest constellations.

In this paper the discussion of various models and strategies have been limited to a few examples from consumer policy in various countries. The discussion indicates that the typology represents a useful analytical framework for consumer policy studies. It is reasonable to assume that it might be especially useful as a framework for comparative, cross-cultural studies. A further evaluation and elaboration of the typology should therefore be based on more systematic empirical studies of consumer policy in different countries.

REFERENCES

1. Brown, James L. "Problems in Defining and Representing 'The Consumer Interest.'" Journal of Retail Banking, 3, Fall 1986. pp. 53-58.
2. Creighton, Lucy Black. *Pretenders to the Throne*. Lexington Books, Lexington, Mass., 1976.
3. Ekhaugen, Knut, Gronmo, Sigmund, and Kirby, David. "State Support to Small Stores: A Nordic Form of Consumer Policy." Journal of Consumer Policy 4:195-211. 1980.
4. Elenius, Bertil. Konsumentinflytande pa varuforsorjningen (Consumer Influence on the Supply of Goods). *Vagar Till Konsumentinflytande*. Edited by Aitta, Ulla, Elenius, Bertil, Perala, Liisa, Yrvin, Ole-Erik, Olander, Folke. Nordic Council of Ministers (Rapport 8), Copenhagen, 1986.
5. Forbes, J. D. "A Consumer Policy Framework: Recent Research." Paper prepared for the 33rd Annual Conference of the American Council on Consumer Interests, Denver, Colorado, April 1-4, 1987.
6. *A Dictionary of the Social Sciences*. Edited by Gould, J., Kolb, W. L. Free Press, New York, 1964.
7. Gronmo, Sigmund. "The Strategic Position of Consumers in the Information Society." Journal of Consumer Policy 10:43-67. 1987.
8. Koopman, Joop. "New Developments in Government Consumer Policy: A Challenge for Consumer Organizations." Journal of Consumer Policy 9:269-286. 1986.
9. Mayer, Robert N., and Burton, John R. "Distributional Impacts of Consumer Protection Policies: Differences Among Consumers." Policy Studies Journal 12:91-105. 1983
10. Milbrath, Lester. *The Washington Lobbyists*. Rand McNally, Chicago, 1963.
11. Murray, Barbara B. Major Federal Consumer Protection Laws, 1906-1970. *Consumerism: The Eternal Triangle*. Edited by Murray, Barbara B. Goodyear, Pacific Palisades, 1973. pp. 78-85.
12. Nadel, Mark V. *The Politics of Consumer Protection*. Bobbs-Merrill, Indianapolis, 1971.
13. Osterberg, Dag. Makt og Samfunnssyn (Power and the Perspective on Society). *Maktens Ansikter*. Edited by Andenaes, Mads, Johansen, Tom, Mathiesen, Thomas. Gyldendal, Oslo, 1981. pp. 74-103.

14. Stern, Louis L. Consumer Protection Via Self-Regulation. Consumerism: The Eternal Triangle. Edited by Murray, Barbara B. Goodyear, Pacific Palisades, 1973. pp. 249-259.

15. Storrusten, Erling. Organisert Forbrukerboikott (Organized Consumer Boycott). Vagar till Konsumentinflytande. Edited by Aitta, Ulla, Elenius, Bertil, Perala, Liisa, Yrvin, Ole-Erik, Olander, Folke. Nordic Council of Ministers (Rapport 8), Copenhagen, 1986. pp. 61-68.

16. Swann, Dennis. Competition and Consumer Protection. Penguin Books, Harmondsworth, Middlesex, 1979.

17. Tala, Jyrki. Soft Law - en vag till Knosumentinflytande? (Soft Law: A Road to Consumer Influence?) Vagar till Konsumentinflytande. Edited by Aitta, Ulla, Elenius, Bertil, Perala, Liisa, Yrvin, Ole-Erik, Olander, Folke. Nordic Council of Ministers (Rapport 8), Copenhagen, 1986.

18. The American Heritage Dictionary, Second College Edition. Houghton Mifflin Company, Boston, 1982.

19. Thorelli, Hans B., and Thorelli, Sarah V. Consumer Information Systems and Consumer Policy. Ballinger, Cambridge, Mass., 1977.

20. Vogel, David, and Nadel, Mark. The Consumer Coalition: Dimensions of Political Conflict. Protecting the Consumer Interest: Private Initiative and Public Response. Edited by Katz, Robert N. Ballinger, Cambridge, Mass., 1986. pp. 7-28.

ROUND TABLE ON IMPORTANT RESEARCH QUESTIONS IN THE CONSUMER INTEREST: OUR LIST

Members of the ACCI Research Committee[1]

ABSTRACT

What are the burning questions that cry out for resolution? What follows is a list of questions proposed by members of the ACCI Research Committee. Each member's nominations probably reflects the sessions that he/she chaired in last Summer's International Conference on Research in the Consumer Interest. Otherwise, the only claim they have for your attention is that each of the members of the Research Committee has, perforce, had to pay attention to the issue of the "important research questions"--first, in planning the Conference and, later, in editing the papers of the Conference. But you should be aware that these particular questions reflect the particular interests and concerns of each contributor.

QUESTIONS YET TO BE RESOLVED

E. Scott Maynes, Chair, ACCI Research Committee; Consumer Economist, Cornell University:

1. Efficiency in Consumer Purchases. To what extent do consumers purchase on or near the "perfect information frontier," i.e., to what extent do they succeed in purchasing their desired quality at or near the lowest possible price? How does this vary? Across groups of purchasers, across different products?

2. Calibration of Quality. What techniques can be devised to assure that different individual's quality judgments are recorded on identical scales? How can you be sure that the judgments of Consumers Union's testers have the same meaning for you as for them? For economists, a successful answer would provide valid interpersonal comparisons of utility. A successful answer would increase the precision of all surveys and questionnaires posing subjective questions.

3. A "Demonstration" Local Consumer Information System. Can anyone organize a local information system--providing complete quality and local price information for a large set of products--in such a way as to (1) demonstrate its feasibility, and (2) facilitate its replication elsewhere?

Monroe P. Friedman, Social Psychologist, Eastern Michigan University:

4. Training of Consumer Affairs Professionals. What can consumer research contribute to the development of guidelines for the academic preparation of consumer affairs professionals?

5. Consumer Research and Product Liability. How can consumer research improve our understanding of the current "crisis" in product liability? In particular, what can we learn about the roles of (1) consumer standards, and (2) consumer expectations that might reduce product liability disputes?

6. Consumer Research and Consumer Education. What can consumer research contribute to the development of standardized tests of the effectiveness of Consumer Education programs?

Jean Kinsey, Consumer Economist, University of Minnesota:

7. Services and Consumer Information/Protection. What types of consumer information and protection are needed for services as distinct from products? Do consumer "rights" have the same meaning for services as for products?

8. Documentation of Non-Use Benefits of Product-Testing. To what extent does the dissemination of product test and other consumer information have "non-use" effects, i.e., change the behavior of manufacturers and sellers rather than consumer users of the information?

9. Effectiveness of Consumer Representation. How effective *is* "consumer representation"? What can be done to make it more effective?

Carole J. Makela, Home Economist, Colorado State University:

10. What Is "Consumer Education"? What is the essential scope and content of consumer education for various grade levels and/or target groups?

11. Ascertaining the Benefits of Consumer Education. What are the benefits of consumer education. Does it make a difference? How can the benefits be assessed? What evidence will be persuasive?

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[1] E. Scott Maynes, Chair; Monroe P. Friedman, Jean Kinsey, Carole J. Makela, Nancy M. Rudd, Roger M. Swagler, and William L. Wilkie.

12. What Partners Represent the Most Effective Agents? What partnerships--business, cooperative extension, educational institutions, government, consumer organizations--are likely to yield consumer education of the highest quality and greatest impact?

Nancy M. Rudd, Family Economist, Ohio State University:

13. Focus on Truly Dangerous Products. How can we generate more interest in "truly dangerous" products such as cigarettes and firearms instead of dissipating resources on less dangerous products, e.g., artificial sweeteners?

14. "Inappropriate" Products in the Third World. What are the appropriate mechanisms for protecting Third World consumers from the risks of inappropriate imported technologies without overly sacrificing the benefits of international trade?

15. The Enhancement of Consumer Search. What can we do to increase consumers' willingness to seek and use information in purchases? What is the appropriate tradeoff between more search and enhanced information processing?

Roger M. Swagler, Consumer Economist, University of Georgia:

16. The Assessment of Product Quality. By what means does one establish an appropriate relationship between the various levels of product characteristics in a variety and the overall level of quality in that variety?

17. Consumer Behavior and the Implementation of Safety Standards. In what ways are safety standards subvented by avoidance behavior on the part of consumers?

18. The Integration of "Family Economics" and "Consumer Economics". Family Economics usually denotes the optimal utilization of family resources outside the market while Consumer Economics deals with the actions of families (or individuals and households) in seeking to maximize satisfaction in their dealings in markets. The question: what steps can we take to integrate Family Economics and Consumer Economics?

William L. Wilkie, Consumer Behaviorist, University of Florida:

19. Market Research and the Consumer Interest. In what ways and to what extent are market research and the activities of marketers in or not in the consumer interest? (Although the Conference addressed this question, Wilkie feels that it needs further exploration.)

20. The Effectiveness of Regulation Vs. Deregulation. Wilkie calls for detailed, "unbiased," descriptive evaluations of the experience of the past ten years and for surveys of consumers, "experts," and "key constituents" to help in this assessment.

21. The Meaning and Boundaries of the "Consumer Interests": An issue that requires further discussion and analysis.

COPING WITH PROBLEMS, DECEPTIONS, AND FRAUDS

Katey Walker, Kansas State University[1]

ABSTRACT

This poster presentation describes an Extension educational program to help consumers avoid cons and swindles. The program, covering the essentials of consumer information and protective legislation, can be taught by volunteers to both adult and youth audiences.

NEED FOR THE PROGRAM

The old time medicine men who sold magic cure alls and pain killers have all but disappeared from today's market place, but false hope is still for sale from unscrupulous salespeople who take advantage of the unwary consumer. These schemers base their promises on universal human desires...to be healthy, wealthy, loved, and secure--or on the idea that consumers can "beat the system" just this once, and get something for nothing or a lot for a little.

Consumers are particularly vulnerable to frauds and deceptions during periods of economic adversity, such as those prevalent in many states at the present time. The elderly, young adults, inexperienced persons such as displaced farmers and the newly widowed, and low income families are common targets of con games, swindles, and other types of consumer frauds.

OBJECTIVES

The objectives of the program are to help consumers recognize common cons, schemes, and swindles; avoid becoming victims of deception at home and in the marketplace; identify laws and agencies which provide consumer assistance and protection; and register complaints effectively.

METHODS AND AUDIENCES

The primary audiences for this program are members of Extension homemaker, senior citizen, and other organizations; 4-H and other youth groups, and the general public.

The program content, publications and teaching guide were developed by the state Extension specialist. Training was provided to county Extension home economics agents, who in turn trained volunteer leaders. Teaching methods used a "back to basics" format, designed to facilitate teaching to small groups by volunteers.

Audience involvement activities to enhance learning and application to individual situations are provided. An original skit, "The Roar of the Jungle," is an entertaining feature which illustrates key points of the lesson.

LESSONS AND PUBLICATIONS

The three lessons in the series are:

"Avoiding Common Cons", emphasizing the prevalance of old con games in new guises and new schemes involving bank and credit card use;

"Money Making Schemes: How to Avoid Them", describing pyramid sales plans and other schemes preying on those who want to work at home to supplement their incomes or train for better jobs.

"Handling Consumer Complaints", focusing on methods of redress for both legitimate consumer complaints and victims of deceptions or frauds.

RESULTS

To date, the program has been given to a total audience of approximately 1,600 people. Specific areas of knowledge gained, as indicated by 200 participants in 35 counties were:

- what to do when you have a problem or complaint (66%)
- reasons why consumers become victims (56%)
- help in recognizing consumer frauds (56%)
- resource materials available (52%)
- answers to questions (36%)

Almost all (93%) planned to teach some of the information they had learned to club members, their families, or other individuals. Several commented on the benefits of reinforcing the need to make others aware of practices.

The program materials are readily adaptable for other uses. They support 4-H and Youth projects, judging activities, consumer bowls, and school enrichment programs. Since many consumer issues and public policy implications are also identified, they supplement other consumer decision making and policy education programs.

The leader's guide and publications are available from the author.

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[1] Extension Specialist, Family Resources and Public Policy

USE OF A TOUR COURSE TO STUDY HOUSING IN PLANNED COMMUNITIES IN GEORGIA

Anne L. Sweaney and Carol B. Meeks, The University of Georgia[1]

Abstract

A housing tour course titled "Housing in New Towns and Planned Communities in Georgia" was developed to address the various aspects of planning for growth. Upper level undergraduate and graduate students in Housing and Consumer Economics (many of whom will be leaders in their communities) enrolled in the course offered by the Department of Housing, Home Management and Consumer Economics in the College of Home Economics at the University of Georgia.

The class toured Savannah, Georgia, the first planned community, as well as planned developments surrounding the Atlanta metropolitan area. Planned communities ranging from 1,400 to 3,400 acres in various stages of development were visited. Peachtree City, with 15,000 acres classified as a new town, was included in the tour.

CLASS DESCRIPTION AND FORMAT

The class, "Housing in New Towns and Planned Communities in Georgia," was offered as a 10 day intensive experience; students were immersed in the topic. This allowed for total involvement and concentration of the participants. This course focused on an indepth study of housing found in planned developments in the state of Georgia. Studying the past, present and future of new towns and planned communities the students had the opportunity to review literature, hear from experts in the field and actually visit developments.

The major objectives of the course were as follows:

1. Determine what is involved in providing quality, affordable living environments for families and individuals in the future.
2. Examine and evaluate population trends and demographic projections for Georgia and analyze the housing and quality of life requirements to be included in planning.
3. Analyze the feasibility and dimensions of planned developments.
4. Evaluate the features and benefits of planning for growth and the provision of affordable housing.

Course Requirements

The text for the course was compiled by the instructors and was a collection of pertinent readings relating to the specific topics of the course [1]. The major topics included were: General Information about New Towns, International New Towns, United States New Towns, New Town Alternatives and Satisfaction.

A final project was designed to integrate all aspects of the course and give the students an opportunity to apply what they had learned to a specific situation. The instructors developed hypothetical situations usually involving the student's area of residence.

Examples of the kinds of problems students examined were:

1. The impact that a growing retirement population has on an area and how that varies by income and level of services.
2. Need to attract industry to an area.
3. Growth of a college.
4. The addition of a medical complex in a remote area.
5. The feasibility of establishing a recreational theme park in an attractive but very rural area.

The class toured Savannah, Georgia, the first planned community, as well as planned developments surrounding the Atlanta metropolitan area. Planned communities ranging from 1,400 to 3,400 acres in various stages of development were visited. Peachtree City, with 15,000 acres classified as a new town, was included in the tour.

Summary

This course enabled students to see the role that they could play in the development of the quality of life in their local area as well as within their state of residence. The skills and experience obtained in collecting data, participating, and vocalizing their views on what a good environment for families with children and for individuals within a community should look like are transferable to any community in which they might live. The techniques used in this course are adaptable to working with other students, professionals, or community leaders.

REFERENCES

1. Meeks, C.B. and A. L. Sweaney, New Towns in Georgia, Athens, GA: Kinko's, Summer, 1986.

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CONSUMER EDUCATION THROUGH ACTIVE LEARNING

M. Barbara Killen, University of Minnesota

ABSTRACT

Active learning! Your students can remember more, develop useful behaviors, and participate in activities which capture and sustain their interest. The goal of my consumer decision-making classes for students in lower-division University classes and adult community programs is to get them to learn and to practice responsibile, informed, and assertive behavior as consumers.

Active learning helps students learn what to look for and what to look out for. They do exercises, practice making simulated purchases, analyze written and oral materials and get exposure to community agencies and resource persons. In my course, students work on a project in a personal consumer decision by which they demonstrate that they can put all the facts together and reach a sound conclusion about making or not making some purchase of their choice. Such active learning provides alternative pedogogy that replaces or supplements classroom lectures.

Students are encouraged to discover that consumer decision making is a game that can be won. They learn to identify their values and goals in order to achieve the best quality of life from their talents and incomes. Consumer finance decisions are more often group decisions that individual decisions. Budgeting, housing, food, clothing and investment often involve negotiated solutions which recognize different values and preferences of family members. Team efforts in coursework are an opportunity to model use of individual skills, information and negotiation in a dyad or triad.

Active learning gets the students' attention. Active learning personalizes inherently interesting material. Students remain awake. They practice the process of decision making and learn to ask the right questions. Active learning forces the modeling of appropriate data-gathering behaviors and analytical techniques. Group or team activity supports the necessary level of effort.

Ask yourself what knowledge, attitudes, and skills you are trying to teach. Identify important consumer resources. In the classroom start with ice breakers which encourage a relaxed attitude. Use self-discovery exercises first. To teach analysis, have the students do an analysis rather than telling them about doing an analysis.

Active learning is a tool for involving students in the educational process. We can prepare students to follow the process developed by their experiences in active learning so as to make sound consumer decisions; the process can be enduringly useful to them. The process consists of five steps: define the problem, select information, evaluate the information, choose, analyze the choice.

In my classes students are introduced to Consumers Reports, Money Magazine, Changing Times, and the FDA Consumer through the requirement that they report on an article related to the Unit Topic for the week. A report format provided in the study packet helps standardize the assignments for inclusion of important elements and for ease of grading.

Each week, an outside authority is invited to describe the services of the agency s/he represents. A member of the district attorney's staff discusses white-collar crime, civil and criminal legal actions, small claims court and when and how the office can help a consumer. A speaker from Consumer Credit Counseling describes the patterns which lead to debt problems. By using real experiences, the speaker will give many of the students a clearer idea of what constitutes a safe debt load. Students are given a form for summarizing speakers remarks. That form focusses student attention on the major points made by the speaker; hence its use involves the student in active listening.

Examples of active learning exercises, the format for periodical report paragraphs, and the speaker summary sheets are available on request from the author.

Assessment of student learning is partly based on points assigned for the speaker summaries, unit topic paragraphs, bi-weekly quizzes, and exercises. Finally students undertake a project in consumer decision making. They write a formal 10 to 15 page paper describing the project; ideally the paper will demonstrate student achievement of the course objectives.

What are the demands on the instructor? Initially the added work is considerable. Most of us are very comfortable and experienced in the lecture format. After the initial efforts, I have found more excitement and more close attention to the mini lectures (10-15 minutes) which I occasionally use to describe the theory into which the active learning fits.

CONCLUSION

The active-learning approach promotes achievement by the students of higher order skills such as independent reasoning, problem solving, and critical assessment. Active learning has been shown in some studies to foster student retention and encourage a more positive attitude toward school.

CORPORATE RESPONSE TO CONSUMER COMPLAINTS

Eloise J. McKitric, Bowling Green State University[1]
Sara Jo Victors, Kraft, Inc.[2]

ABSTRACT

The purpose of this research was to (1) assess consumer perception of satisfaction, (2) develop a consumer profile, (3) identify services consumers demand, and (4) determine if brand loyalty continues following complaint registration. A representative sample was drawn and questionnaires were sent in the spring of 1986. Findings from the 1,394 participants suggested that even though consumers registered complaints, they tended to be satisfied with the resolution of their problems and continued to remain brand loyal.

Do businesses really mean . . . "satisfaction guaranteed of your money back?" Consumers often wonder about the willingness of the seller-maker to stand behind this statement. However, the only way they can test the validity of this claim is when a product or service fails to meet their expectations.

Generally speaking, consumer complaints are usually the symptoms of buyer-seller-maker transactions that have gone wrong. The resolution requires time and energy on the part of all persons involved. The problem arises when these situations are plagued with anxiety, conflict, and irrational behavior on the part of the consumer. In addition, the seller-maker may be overly defensive and appear to be insensitive to the consumer's need for resolution.

The literature suggests that there are certain types of consumers who complain. In addition, dissatisfaction does not necessarily result in changes and buyer behavior (2).

To this end, the Consumer Service Department of Kraft, Inc. initiated the study to assess the perception of satisfaction consumers received in response to their inquiries or complaints. Second, to develop a consumer profile by determining frequency of complaint behavior, not only in regards to Kraft products, but other producers-sellers. Third, to identify the types of services consumers want producers to supply. Fourth, to determine if continued brand loyalty was related to past dissatisfaction.

METHODS

During the spring of 1986, 2,020 questionnaires were sent to a representative sample of consumers who had either initiated complaints or had inquiries about Kraft products or services. Questionnaires were mailed two weeks following the initial response letter to the consumers inquiry/complaint. Useful data were collected from 1,394 consumers, a 69% return.

FINDINGS

The results indicated that the majority of the consumers who write have 11 or more years of education, they are infrequent complainers to Kraft or any other company. Even when they complain, they continue using Kraft products. However, of the 1,394 consumers who completed the questionnaire, about one-half of 1% discontinued use of Kraft products.

When asked whether or not the responses they received from Kraft answered their questions, 78% had a positive response. In addition, 88% felt the responses were timely. An overwhelming majority, 92% believe Kraft to be a friendly, caring company. Of those who requested and received education/information materials, the majority thought the materials were both appropriate and effective for their identified needs.

When consumers were asked for suggestions for improving Kraft's consumer services, they made some of the following suggestions: distribute more materials on food content and nutritional value; put the Consumer Service Department address with promotional ads; install an 800 number for all Kraft products; make more recipes and cookbooks available.

Kraft prides itself on its reputation on standing behind their motto . . . "satisfaction guaranteed or your money back." Consumer satisfaction is the reputation it is built on and continues to embrace. The corporation welcomes consumer complaints, compliments, and suggestions. Similar to the findings in the study conducted by the TARP Institute (1) this study found that the majority of the complainants received the satisfaction they were seeking and continued consuming Kraft products.

REFERENCES

1. TARP, Inc. Consumer complaints handling in America, final report. Washington, D.C.: U.S. Department of Health, Education, and Welfare. NTIS No. TB 80-176-316. 1979.
2. Warland, R. H., Herrmann, R. O., and Willits, J. Dissatisfacted consumers: Who gets upset and who takes action. The Journal of Consumer Affairs, 9: 148-163. 1975.

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PREDICTORS OF SEARCH TIME FOR MATTRESS PURCHASE

Norleen M. Ackerman, Utah State University[1]
Leona K. Windley, Utah State University[2]

ABSTRACT

The study identified predictors of the amount of search conducted by 391 mattress purchasers who responded to mailed questionnaires. The mean search time was 4 hours and 31 minutes. The most important predictors of search time were behaviorial factors: the number of stores shopped, a value-for-money decision making style, and price, paid.

Consumers face a number of challenges in selecting mattresses which best meet their needs. The interior construction cannot be viewed and evaluated unless the store provides cutaway models. Even when shoppers view the model, do they have sufficient knowledge to evaluate the quality of component materials, the degree of softness or firmness, and product durability?

Mattresses are a relatively high priced and long lasting product, so the risk of a poor choice is larger. It was, therefore, expected that difficulties in assessing quality, the potential for price variation, differences in personal preferences, and the amount of money being spent would motivate consumers to seek information that would help them to evalutate market offerings and make an effective purchase decision.

METHODS

The sample was obtained from sales invoices of five cooperating retailers in the Salt Lake City area. The three most frequently purchased types of mattresses--innerspring, foam, and water--were represented, in proportion to their U.S. sales. Data were collected by mailed questionnaire using a modified Dillman procedure. Response rate was 51 percent and the sample size was 391.

Predictor variables were of three types: human resource measures, consumer attitudes and behavior, and information measures. The dependent variable, search time, was the sum of (1) time spent in stores looking at mattresses, talking with sales people, and travel to stores and (2) time spent locating and reading information about mattresses and talking with friends and experts about mattress purchase.

Since search time did not yield a linear model, the $\log_{10}$ form of the variable was used. Preliminary analysis led to the deletion of a number of variables which were not significant at the $P=.05$ level. A final multiple regression equation was computed with simultaneous entry of predictor variables.

FINDINGS

Among human resource variables, age was significant. Those 25 to 29 searched more. Post-High school education was not significant. Among the consumer attitude and behavior measures, the strongest predictor of search time was the number of stores shopped. As the number of stores shopped increased, search time increased. The second best predictor of search time was the respondent's score on a value-for-money decision making style. Another behavioral factor, mattress purchase price, was significant. Those paying more than $300 spent more time shopping.

Among information variables, those who reported reading the mattress warranty spent more time in search. Perhaps they were more careful shoppers. The respondent's evaluation of the usefulness of advertising was inversely related to search time. Those who felt advertising was moderately useful spent the largest amount of time on information search. Respondents who placed a moderate level of importance on point-of-purchase information, in the form of prices on products and label and sign information, also spent more time on information search.

CONCLUSIONS

This study divided younger less experienced shoppers into two significantly different groups, those under 25 and those 25 to 29. Those under 25 reported search time similar to their age 30 and older counterparts, while those 25 to 29 searched more. It appears that it is not inexperience alone which increases shopping time, since the two groups would be similarly inexperienced, but inexperience in combination with other characteristics of the 25 to 29 year olds. Perhaps the economic constraints of establishing or expanding a household are involved.

Other significant predictors of search appear to be quite logical. Greater search time is related to shopping more stores, purchasing a higher priced product, carefully shopping for the best buy and using more information.

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MEDICARE SUPPLEMENT HEALTH INSURANCE: A BUYERS' MARKET?

Sharon A. Burns, Eastern Illinois University[1]
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ABSTRACT

Consumers' knowledge of Medicare, health insurance products, and regulations governing the sale of Medicare supplement health insurance policies was identified. Multivariate analysis was used to examine purchasers of four policies: two Medicare supplement polices, one hospital indemnity policy and a dread disease policy. Only 8.3% of respondents received a "passing" score of 70% on the knowledge portion of the questionnaire. Demographic and socioeconomic characteristics did not predict purchase of a particular policy.

INTRODUCTION

In the early 1980s many state insurance commissions focused their attention on the development and sale of Medicare supplement health insurance policies for the elderly. In 1981 a Wisconsin-based insurance company, with a large number of elderly Medicare supplement and other health insurance policyholders, declared bankruptcy. A study of 960 elderly consumers of health related insurance policies from this company was conducted.[3]

The purpose of the study was to assess the knowledge of the policyholders regarding Medicare, Medicare supplement policies, and Wisconsin regulation governing the sale of such policies to consumers over age 65. In addition, the researcher attempted to analyze the factors influencing a consumer's decision to buy a particular policy.

PROCEDURES

A sample was taken from a list of 1981 purchasers of one or more of two Medicare supplement, one hospital indemnity and a cancer policy offered for sale by the company. Due to cost constraints, eighty percent of this group, or 960 respondents were surveyed by mail. Three hundred and two responses were used for the final analysis.

The sample was sent a 59 item survey. This paper focused on a 17 item true/false "quiz" containing questions about Medicare, Medicare supplement health insurance and regulations governing the sale of such policies. In addition, data about respondents' age, sex, education, income, occupation before retirement, asset levels, residence, and selected financial management behaviors were obtained.

The knowledge questions were analyzed using frequencies of right and wrong answers and crosstabulating responses with certain socioeconomic variables as well as with the type of policy purchased from the company. Dummy variable multiple regression analysis was used to determine which socioeconomic or financial management behaviors predict which policy the respondent had purchased.

RESULTS AND IMPLICATIONS

Although respondents overall performed poorly on the knowledge portion of the questionnaire, those who received formal education beyond high school and lived in the suburbs answered more questions correctly. In addition, those who had read the booklet, "Health Insurance for Senior Citizens", distributed by agents at the time of purchase, and understood the booklet received higher "scores" on the knowledge questions.

Four distinct regressions were applied to the data, with one of four relevant policies (Medicare Supplement 4-B, Medicare Supplement 3, Hospital Indemnity, and Cancer) serving as the dependent variables. Although overall predictive value of the models was low (highest R^2 of .155) some factors appeared significantly more or less likely to predict purchase of a particular policy. Formal level of education received, especially high school and college level, appeared to aid in predicting which policies a consumer might choose to purchase. Certain occupational groups (physical or manufacturing, farm operators and managers or professionals) seemed to be stronger predictors of policy purchased than others . Last, residence appeared to aid in predicting the purchase of the Medicare Supplement #3 policy.

Because elderly consumers know little about public and private health insurance and all elderly health insurance purchasers appear susceptible to making poor decisions, elderly consumers need more effective educational programs. It may also be unwise to have the elderly use vouchers to purchase private insurance as an alternative to Medicare.

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[3] Paid for by the Wisconsin Office of the Commissioner of Insurance. Views do not necessarily represent those of the state or office.

THE IMPACT OF THE EMPLOYMENT OF THE WIFE ON THE ACHIEVEMENT OF HOME OWNERSHIP

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ABSTRACT

Of the three wife's employment variables tested for a subsample from the Panel Study of Income Dynamics, only the number of hours worked was a significant predictor of the probability of changing from rental tenure to ownership.

Several authors have investigated the relationship between the employment of the wife and various aspects of housing (Griffin-Wulff, 1982; Ihlanfeldt, 1980; Roistacher and Young, 1979). The purpose of this paper is to assess the impact of the income, wage rate, and hours worked of female spouses in couple households on the change from rental to home owner status.

The sample is a subsample from the Panel Study of Income Dynamics. It is composed of 367 husband and wife families who had the same household head from 1979 to 1983, who had a wife who was between the ages of 18 to 65 in 1979, and who rented their dwelling in 1979.

FINDINGS

Forty-four percent (162) of the renters in 1979 became home owners between 1979 and 1983. Of those families that had a change in both statuses between 1979 and 1983, the largest family type was that in which the wife became employed after the family became a home owner.

Table 1 indicates the logistic regression analysis for the model which includes the number of hours worked as the indicator of wife's employment. Of the three models tested, only the number of hours worked was a significant predictor of changing from renta [illegible] nure to ownership.

Age of the wife, education of the wife, family size, and residing in the Northeast were significant predictors of change in tenure status between 1979 and 1983. Those families who had young wives, wives with high levels of education, and few members were more likely to change from rental status to ownership.

Table 1. Logistic Regression Analysis of Change in Tenure Status on the Wife's Hours Worked, Change in Wife's Hours Worked and the Sociodemographic Characteristics (Model I)

	Step 1		
	Coefficient	Standard Error	Chi-Square
1978 Wife's Hours Worked	.00039	.00014	7.66*
Change in Wife's Hours Worked	.00034	.00014	5.53*
Constant	.75	df	399
Maximum Likelihood Ratio	380.13	p	.74

	Step 2		
	Coefficient	Standard Error	Chi-Square
1978 Wife's Hours Worked	.00037	.00016	5.42*
Change in Wife's Hours Worked	.00031	.00016	3.69*
Size of City	-.04347	.07733	.32
1978 Family Income Minus Wife's Income	.00002	.00001	3.11
Change in Family Income Minus Wife's Income	.00002	.00001	2.11
Wife's Age	-.04894	.01135	18.39*

CONCLUSIONS

The findings of the study indicate that the majority of households are "anticipators" in that the wife enters the labor force prior to the purchase of a dwelling. However, what is important in the decision of changing from rental status to owner status is the number of hours the wife works outside the home. The study provides evidence that families do include factors related to the wife's employment in home ownership decisions since the passage of the Equal Credit Opportunity Act.

REFERENCES

Griffin-Wulff, M. (1982), "The Two-Income Household: Relative Contribution of Earners to Housing Costs," Urban Studies, 19:343-350.

Ihlanfeldt, K.R. (1980), "An Intertemporal Empirical Analysis of the Renter's Decision to Purchase a Home," Journal of the American Real Estate and Urban Economics Association, 8:180-197.

Roistacher, E.A. and J.S. Young (1979), "Two-Earner Families in the Housing Market," Policy Studies Journal, 8:227-240.

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FAMILY CONSPICUOUS CONSUMPTION AND ITS DETERMINANTS

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ABSTRACT

Conspicuous consumption, defined as the enjoyment of certain goods and services that enhances a person's prestige, is found to be determined in large part by family income. The beginning stage of the family life cycle is the single most powerful predictor of whether or not families consume conspicuously. Attitudinal and perceptual variables do not contribute much to the explained variance in conspicuous consumption nor do they affect families' consumption of such goods and services.

In a post-industrial country, like the United States, it may be argued that an increasing number of people are no longer concerned about the basic necessities but are interested, instead, in consumption that would raise their status in the community. The purpose of this paper is to ascertain the sociodemographic and attitudinal variables that affect conspicuous consumption and to assess the relative importance of these variables.

Data for this study are taken from The Survey of Consuption and Expenditures Among Households in the Fargo-Moorhead Area conducted in summer 1983. Four hundred households in low, middle and high-income areas of Fargo, North Dakota and Moorhead, Minnesota were drawn through a stratified random sampling technique. Of the 400 questionnaires distributed, 212 (51 percent) were returned. For this study on conspicuous consumption, eligibility for the sample was limited to 151 intact husband-wife families.

As used in this study the dependent variable, conspicuous consumption, is an index composed of 43 goods and services which had to exceed a minimum price level and had to be one whose consumption may be perceived to be conspicuous. While the cost cutoff points are arbitrary, they were arrived at after consulting people of various backgrounds so as to remove as much bias as posible.

The independent variables used are socio-demographic variables as well as perceptual and attitudinal variables. The socio-demographic variables were chosen because of their precedence in previous consumption studies. These include household size, family income, family savings, family debt, husband's age, wife's age, wife's employment status, and stage of family life cycle.

It was hypothesized that family income, savings, husband's education, wife's education, husband's age, wife's age, working wife status, early marriage stage, and retired stage would be positively related to conspicuous consumption. Household size, family debt, non-working wife status, beginning family stage, and middle family stage were hypothesized to negatively influence family's conspicuous consumption.

The following attitudinal and perceptual variables were hypothesized to be positively related to conspicuous consumption: perception of whether family income has kept up with prices, household's preference for their consumption level, their satisfaction with current income, their satisfaction with current savings, the importance of their standard of living, family's financial situation today compared to two years ago, family's financial situation today compared to five years ago, and family's financial situation today compared to ten years ago.

Step-wise multiple regression with forward and backward elimination was used to determine the contribution of the sociodemographic and attitudinal variables to explained variance in conspicuous consumption.

The total amount of variation (R^2) in conspicuous consumption explained by the model is 46 percent. The independent variables in the regression equation include income, household size, husband's education, wife's education, savings, beginning family stage, financial situation of their family compared to two years ago, and financial situation of their family compared to five years ago. This is consistent with the underlying assumption that families with higher income would have more discretionary income available with which to purchase larger quantities of conspicuous goods and services. Husband's education and household size explained an additional six percent and four percent respectively. It is quite likely that households with better-educated husbands have higher incomes and are able to acquire more goods and services.

The variable, beginning family stage has the most impact on conspicuous consumption ($B = -.48$). As was hypothesized, being in this beginning stage of the family life cycle tended to decrease families' consumption of conspicuous goods and services. Although not statistically significant, a perceptual variable that makes a substantial contribution to conspicuous consumption is family's financial situation today compared to two years ago ($B = .39$). Other variables that have an important and statistically significant effect on conspicuous consumption are household size ($B = .27$), wife's education ($B = .23$), family's financial situation today compared to ten years ago ($B = -.22$), and family savings ($B = .21$).

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CONSUMER INTEREST BY OREGON STATE UNIVERSITY STUDENTS IN NUTRITION INFORMATION ON FOOD LABELS

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Based on extensive research between 1970 and 1982 it can be concluded that consumers use information on food labels but are not completely satisfied with the current food label regulation established in 1973. Today's consumers are interested in knowing about specific nutrients that are considered detrimental to their health. However, mandatory nutrient labeling omits those of high interest such as sodium and cholesterol and applies to only 40 percent of all food products.

Students were surveyed to determine their interest in and use of nutrition information on food labels, since these behaviors may ultimately be related to better food purchase decisions. The student characteristics studied also give some important clues to what educators and others can do to heighten awareness and use of nutrition information.

The overall level of involvement of Oregon State University students, ranging from awareness to advocacy for nutrition information, was examined. Objectives were to compare advocacy for nutrition information (involvement score) with selected student characteristics (independent variables), to determine the importance of specific nutrition information items on food labels, to obtain an importance rank order for the nutrients, and to determine the sources for nutrition information which students use and would like to use.

A 27 question survey was completed by 440 Oregon State University students during February 1986. Classes were chosen according to the mix of class ranks and college majors, in order to obtain a representative sample. Classes were sampled only once with no repetitions, assumimg that those students who were absent did not differ from those in class on the given day.

Six null hypotheses with sub-parts were developed for the purpose of this study and tested with $p \leq .05$ level of significance. One-way analysis of variance, Pearson's product moment correlation coefficient, Wilcoxon signed rank tests, *t*-tests, Spearman's rank correlation coefficients, chi square tests of independence and Kruskal-Wallis one-way analysis of variance were the statistical tests used, depending on the type of variable being analyzed.

Significant socio-demographic differences were found between advocates and non-advocates of nutrition information, as measured by the involvement scale. Degree of involvement with nutrition information was measured on an eight-factor scale that summed responses to the following: interest in having access to nutrition information, reported assessment of being informed about day-to-day nutrition needs, interest in nutrition information, degree of seeking for nutrition information, use of nutrition information in the store for purchase decisions and/or at home for meal planning, preferred kinds of foods required to be labeled, and satisfaction with the amount of nutrition information required to be on the label. Female students, older students, students with higher class ranks, students majoring in a social science (rather than physical or hard science), students who had participated in nutrition classes either in high school or college, those who share a house or an apartment with others or live alone, those with health problems, those who live on a special diet, and students who take vitamins and/or minerals seem more likely to be involved in using nutrition information, and thus were judged to be stronger advocates for nutrition information.

The majority reported using nutrition label information. Almost 60 percent of the students wanted more information than is currently given, with approximately 88 percent of the students wanting more foods labeled than are presently required by law. Food care labeling, open date, nutrition information, and ingredient list were rated more important than other types of information provided on food labels. Students rated sugar, cholesterol, saturated fats, sodium, fiber and starch higher than other nutrients which are now required.

The three most important current information sources were reported to be the nutrition information label, family members or relatives, and magazines. The most preferred sources were nutrition information on food products, doctors, and retailers.

Nutrition educators, policy makers, food producers and retailers need to understand the nutrition information needs and desires of the students as future consumers as well as policy makers. These findings could contribute to the development of more effective nutrition information labels for food products. Replication of the research with additional audiences would contribute to a broader understanding of changing consumer demands for nutrition and food label information and lead to better nutrition education programs and policy goals.

Source of data: Sabine Schoechle. Consumer Interest by Oregon State University Students in Nutrition Information on Food Labels. Master's Thesis, Oregon State University, 1986. Available on Interlibrary Loan.

1-800-BUY-MORE: A PRELIMINARY ANALYSIS OF USE OF 800 NUMBERS FOR CONSUMERS' COMPLAINTS

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INTRODUCTION

Research on consumers' post-sales communications over problems with their purchases can be characterized in two broad ways: it is descriptive, and it is almost entirely concerned with the complaining consumer. The literature focuses on the complaining consumer apparently assuming that a consumer will complain independent of the medium of complaint. The effects of the mode of complaining have not been extensively researched.

The present research focused on the 800 number and attempted to characterize consumers' use of that communications medium in the light of the aforementioned deficiencies in the literature. Because of the focus of the literature on the complaining aspect of use of communications media, stress was placed on complaints, even though 800 numbers also function as a medium of inquiry [2].

Note that the 800 number represents manufacturers and not stores. That being the case, it is possible that consumers will attribute the resolution of problems via the 800 number to the "good" manufacturer and continue to blame the "bad" store.

HYPOTHESES

The following hypotheses were tested in this study:

1. Since we are assuming that mode of complaint is a significant antecedent variable, users of 800 numbers have different styles of complaining than non-users, where "style" refers to the combinations of use of complaint modes by consumers.
2. On the whole since demographic variables have been unsuccessful in discriminating complaining from noncomplaining behavior [1], there should be little relationship between using an 800 number to complain and demographic characteristics.
3. Individuals who have used an 800 number to complain will be less store loyal when dissatisfied than those who have not used an 800 number.

METHODS

A total of 300 surveys were distributed to their employees by local businesses in a medium-sized Midwest city. Two hundred and ten usable surveys were returned (70%). The demographic data were not particularly skewed from the census data representing this area.

To test the first hypothesis, consumers were asked to rate, on a 1 - 4 scale (4 = more likely), 10 different actions in terms of the degree to which they have used them to resolve problems/complaints about goods and services they might have purchased. A significant F test on the difference of likelihood of use of other complaining mode for respondents who would use an 800 number to complain as opposed to those who would not would be indicative that 800 users have a distinct style of use of complaint media.

For the second hypothesis, respondents were asked their age range, family income, gender, educational experience, marital status and number of children. For the third hypothesis, an F test was applied to the difference between respondents who would use and those who would not 800 numbers with respect to the likelihood that they would refuse to buy from the relevant store in the future. A significant F would indicate that 800 number users were store disloyal.

RESULTS

As predicted under hypothesis 1, complainers had distinctively different complaining histories/profiles than noncomplainers. Furthermore, the style of complaining appeared to be oriented toward use of private sector (nongovernmental) modes. People who complained using an 800 number were significantly more likely to complain directly to a store, complain to the Better Business Bureau, or complain to private nongovernmental agencies.

As in previous studies, demographic variables held little power to differentiate those who complain. Users of 800 numbers were marginally of higher income and marginally more likely to be male, but otherwise hypothesis 2 was upheld.

As predicted by hypothesis 3, individuals who had used an 800 number to complain report themselves significantly more likely to refuse to buy from a store if dissatisfied. That is, 800 number complainers were more likely to be store disloyal than other consumers. This is attested to by an F score of 13.69 for the difference between likelihood that the consumer will refuse to buy again from the store between 800 users and nonusers.

REFERENCES

1. Moyer, M.S. "Characteristics of Consumer Complaints: Implications for Marketing and Public Policy." Journal of Public Policy and Marketing, 3 (1984):56-66.
2. TARP Inc. Consumer Complaint Handling in America: Final Report, Washington, D.C.: U.S. Dept. of Health, Education and Welfare. NTIS #PB 80-176-316. 1979.

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INTERNATIONAL PERSPECTIVE: CONSUMER ISSUES IN MAINLAND CHINA

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ABSTRACT

The Chinese are taking steps to aid consumers in their market place. A 126-member Chinese Consumers Council has been established to 1) protect the consumer and 2) to provide guidance to consumers in their marketplace dealings. The Council conducts random inspections in the marketplace, responds to complaints and disseminates information through newspapers, televisions and their own newsletter.

I'm blessed to be with you today. And I decided I'd begin with words I heard recently.

"I've had this TV only three weeks and it doesn't work...."
"I paid more than I should have for this iron...."
"The food I bought was spoiled...."

Complaints from the consumer office in Washington? No. From Penang? No. Well, where then? The consumer office in Beijing, China.

A year ago this month I took a trip to the Peoples Republic of China and after satisfying visits to wonderful places I spent the better part of three days visiting the China Consumer Council in Beijing. Previous arrangements had been made through as associate from China I met at the United Nations and through correspondence from the International Organization of Consumers Unions.

I found a completely new dimension to my knowledge and understanding of the PRC. I had a previous visit in 1973 when the cultural revolution was in full swing. The contrast between then and now is staggering, and contrasts between the rural and urban centers is very marked. Traffic, colors, full markets, buildings going up all over mark the cities. The country areas, the largest part, continues to be dominated by peasant farmers and is pretty much as it was before. But throughout I felt a wave of optimism and a new marketplace freedom and an industrious, hardworking, and healthy population.

A consumer movement in China? How, under a predominantly state owned and operated economy which is moving into a period of modernizing with a partial free market economy? How? Can some of the benefits of a free market economy be directed to assist in the development of the country? Can a consumer protection component fit?

Before visiting Beijing and the Consumer Council I had various discussions with both Chinese and observers of the Chinese experience which led me to the conclusion that there is a belief among some that too high a price might be paid if China adopts the kind of free market practiced in some highly developed societies, mainly the United States. There is an undercurrent that if Premier Deng succeeds in his efforts, cultural and moral values the Chinese people have long cherished might change, and traditional values of honesty, integrity, respect, cooperation, ethics, morals, and family strength might be seriously weakened. I sensed many felt a need for a countervailing force, an organized consumer council and movement that could help to restrict possible abuses. If balanced progress were to be made, consistent with the anticipated growth in personal income, there must be assurance of fairness, quality, safety and redress, in the marketplace.

In a number of places I saw "pressure" buying - even in a village - but the further inland we went there was less. I saw advertising similar to some of ours stressing buying of products not fully approved by traditional values, some cosmetics, for instance.

So when I got to Beijing I was pleased to be received by the chairman of the Chinese Consumer Council and the Secretary General. I had learned from IOCU material that on December 26, 1984, the 126-member CCC was established by formal action of the PRC Congress. The council has the endorsement of top officials of the PRC. There are 22 standing committees plus a chairman, five vice chairmen, a secretary general, three special advisors: law, chemistry/medicine, and an economist. These three advisors are top persons in their fields and carry the weight of authority. The honorary chairman is a top official in the People Council, Mang Run Zhong, which indicated the seriousness of this action. There is a staff of 65 persons in Beijing. Fifteen work fulltime on complaints and many from various "social groups" assist (I think as volunteers).

Beijing is the head office. There are 88 offices in various provinces and some towns are also setting up consumer offices. The purpose of the Council is twofold: to protect the consumer and to provide guidance in their dealing with purchases and related activities in the marketplace. Letters to the Council are written, 2986 during the first year. Complaints deal largely with quality, food security (additives, etc.), sanitation, and price. Over 500 consumers had visited the office with complaints the first year. I looked at the complaints. One was about a TV repair, another was about rancid food, and another was about overpricing. A refund equal to six cents was one of the complaints. I'm told the consumer got it!

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The council conducts random inspections of the marketplace...food, drug, appliances...all consumer products. If found guilty of fraud, unsafe products, adulterations, etc., the person or establishment could be fined. The Council reviews programs and complaints. They see that food and drug laws are monitored. Recommendations for improvement come to the Council from consumers. Publication and exposure of wrongdoing is, I'm told, the next effective deterrent.

The Council, to project information, in addition to the paper they publish (which reads somewhat like Consumer Reports, according to the translator!) conducts TV programs and puts articles in the official papers with recommendations to consumers on pertinent issues. I asked what happens when the business and factories are state owned. The chief officer said that they do not resent the criticism because "It can help us improve our work." They hoped that factory quality control would make difficult the sale of products not up to standard.

Before the Consumer Council was set up leaders had travelled to Hong Kong where they met with consumer leaders and had help in formulating the program. It was pointed out by the chairman that it might be advantageous to develop a regional group of Hong Kong, Singapore, and China (they did not mention Japan or other more westernized countries). Earlier a consumer council had been set up in Canton. The Beijing organization benefited from the early activity for their statements paralleled those made in Canton. But now, Beijing is the center for direction of China's consumer activities.

Examples of some of the Council's actions are interesting: an ad for a sports machine claimed great benefit "if you use this..." It was withdrawn as false. A medicine as advertised which was said to cure "flu" was found to contain 99% sugar. It was withdrawn. Certain infant food formulas have had to be changed.

As stated before, the biggest complaints are concerning sanitary conditions in the marketplace and public establishments, medicines, and prices of clothes and appliances, also the safety and quality of electrical appliances. Discussions concerning housing, wages, etc. were also held but these items were not the official area of the consumer council though they were very free in their discussions. It must be stated that all this information came through a translator who spoke very good English and is a top person in the governments trade group.

On the second day, we visited pharmacies, department stores, and fast food establishments. In fact, we touched the main streams of the Beijing market. The morning ended with a very superb luncheon. It was probably the best I had in all of China and I had some superior meals! We toasted and drank and had frank discussions about China's future and the hope for friendship and cooperation with our government and with our consumer movement.

One of the most satisfying things they told me was of their Consumer Rights Day on March 15. They showed me their paper of March 15 which carried a picture of a big banner telling of Consumer Rights Day which was flying across the street. They knew of the basic consumer rights, and when they learned that I had worked with President Kennedy there was certainly an acceptance I had not felt until then. One gentlemen, Zhu Zhen Yuan, a high official, came to the luncheons. He spoke fair English and stated that they used the Kennedy Consumer Bill of Rights in developing their program.
My last day in Beijing was spent largely with the translator and Mr. Li's assistant. We spent hours going over their publications. They translated various headlines and articles and cartoons - of rare humor! Some of the subjects in the papers:

1) Consumer rights, and a feature article on Consumer Rights Day.
2) Description of what businesses and establishments cannot do.
3) False advertising
4) Shelf life
5) Poor quality of products
6) Punishments: (1) can be required to refund (2) be openly criticized (this they said is the most effective) (3) can go to another agency - law enforcement.
7) Pricing: Prices are stable since most production facilities are government owned. The free stores can charge different prices and must carry a license notice in their window. If the products they sell come from the government warehouse they must be sold at the controlled price. The free establishments charge more but offer more variety, especially in clothing. There are free markets for produce and there are government stores where prices are controlled.
8) Working for toy safety
9) Working against smoking (ads are not allowed for tobacco and alcohol)
10) Labeling (especially food)
11) They are anticipating problems with regard to frozen foods. So far there is none on the consumer market, only duck for restaurants, as far as I learned.
12) Chemical and natural medicines

I did not get information about hazardous products nor chemical fertilizers, except expressions of concern, although information might be in their publications.

The paper accepts advertising because "we must be self-supporting." They screen the ads. They are largely big establishments but not consumer products as near as I could tell. There are consumer letters in their consumer paper.

In answer to my inquiry relative to the Consumer Guidelines, passed at the U.N. in April '85, I was told that they were working on an analysis of their protections to see how they measure up to the guidelines. They hope to complete this before too long. They stated a general agreement with principles and are now "studying the details." They asked why there was nothing specifically referring to developing countries in the guidelines, one of which they consider they are.

The Chinese Consumer Council and the way it is organized completely "from the top" poses some interesting questions. There is no model to look at, no Sweden middle way, no free regulated marketplace as in developed countries, no rank and file membership, no ACCI, no OECD patterns. It will be very interesting to watch. I'm hopeful. I like these people and feel that their traditional values, their new willingness to try and their revived industrialization and concern for economic growth point to new directions. We must work with them and keep an open mind. It could mean a blend of the positive elements of Marxism and capitalism. At least, we are in for new experiences.

A positive outgrowth of the meeting was the acceptance by the Council to have a representative at the I.O.C.U. conference held in New York. Mr. Wang Jiang Yun plus a representative of the Chinese embassy attended the entire session. Mr. Wang, who is the secretary-general of the council, was quoted in the New York Times as saying the council is financed and sanctioned by the People's Republic but, independently operated. He said, "Along with the open-door policy, production has improved greatly in China and more and more commodities have turned up. Along with that, consumers find some products are not up to standards of what is in advertisements, so the consumers find it necessary to organize a Chinese consumers union to look after their own interests."

And as we are getting to learn of China's growing consumer movement there is another I'd like to mention briefly. I've recently returned from Montevideo, Uraguay. I attended a conference under the auspices of the U.N. to discuss implementation of the Consumer Guidelines passed by the General Assembly of the U.N. in April of 1985. The meeting was attended by representatives of 20 Latin American and Carribean countries. There were 3 days of discussion which ended with a declaration itemizing broad issues that need attention. The declaration is appended to this paper.

This is part of a new and growing attention to consumer concerns by government. The I.O.C.U. world meeting to be held in Madrid this September will further this development. The international development of the consumer movement bears watching.

There are 3 developments at the U.N. which have great importance to consumers. The publication of the Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments and the official acceptance and publication of the Consumer Guidelines. These are effective tools now being used increasingly by the consumer movement internationally.

The third is the possible acceptance of the proposed Code of Conduct for Transnational Corporations now being discussed at the U.N. at the Centre for T.N.C.s. The draft code has a strong consumer component.
Acceptance of this Code would help set voluntary standards for the operation of TNCs and also standards relating to host countries. The development bears watching and should be supported.

Consumers all over the world are coming forward and are influencing the marketplace in both developed and developing countries. They are opening new fields for consumer educators and activists and I believe will be of substantial influence in future economic and social developments.

THE MONTEVIDEO DECLARATION

Adopted at the IOCU Regional Conference for Latin America and the Caribbean, Montevideo, Uruguay, 1-4 October 1986

Participants at this first IOCU Regional Conference for Latin America and the Caribbean, meeting in Montevideo, 1-4 October 1986, and representing 82 groups from 22 countries, acknowledge the diversity of the groups at this Conference, reflecting the diversity of those active throughout the world to advance the interests of consumers.

1. Having discussed the high incidence of poverty in this region, and using food as an example where the problem is both one of supply and of distribution, the Conference **affirms** that the basic needs of consumers must be met fairly, promptly, and with equity. The right to have the basic needs fulfilled is the most pressing consumer right in this region and working towards the realization of this basic right is the commitment we share.

2. Having discussed the fact that consumer protection concerns itself with broad economic deficiencies, as expressed through the high levels of inflation, problems of foreign debt and recessive policies, the Conference **affirms** that governments should not wait for consumer protest, but must take measures to protect consumers at a local, national and international level, with special emphasis on the protection of marginal groups, and must recognize consumers as social partners in negotiations affecting consumers, such as setting of prices.

3. Having discussed the UN Guidelines for Consumer Protection, it expresses its support for the Guidelines as an agreed world statement on what constitutes a fair standard of protection for all consumers in the world; the Conference

    (a) **affirms** its commitment in working for the implementation of the Guidelines;

(b) **welcomes** IOCU's support for the campaigns of our organizations as well as its assistance to governments who wish to develop and strengthen their consumer protection legislation;

(c) **looks forward** to the Regional Consultation of the United Nations on the Guidelines for Consumer Protection, to be held in Uraguay, and requests governments to include representatives of consumer organizations in their delegations;

(d) **requests** the assistance of governments for independent consumer groups.

4. Having discussed the consumer right to safety, the Conference **affirms** the need for vigilant consumer action to ensure that the region will not serve as a dumping ground for the marketing of products which are hazardous, wasteful or inappropriate, such as tobacco and many pharmaceuticals, pesticides and baby foods, and furthermore expresses its preoccupation with the active role played by the mass media in promoting products toxic to human health and the environment and promoting aggression in our cultures. The same applies to the production and trafficking of drugs and its relation to the structural problems of agricultural production.

5. Having discussed the special problems faced by women as consumers, the Conference **agrees** to incorporate these problems in the activities of the world consumer movement, especially in Latin America and the Caribbean and to promote studies and research which will serve as a basis for formulating a strategy in this field.

6. Having discussed the need to obtain a balance of power in the marketplace and in economic decision-making, both nationally and internationally, among those who consume, the Conference

   (a) **affirms** that it has started to work towards obtaining such a balance in Latin America and the Caribbean and has made an important beginning at this Conference for this region;

   (b) and therefore **expresses** its confidence that the Latin American and Caribbean consumer movement will grow and give new vigour, new priorities, new insights and new achievements to the global consumer movement.

Together we will give a strong and effective voice to consumers in this region and in the world.

METHODS TO ENHANCE INFORMATION SEARCH USING VIDEOTEX AND RELATED TECHNOLOGIES

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ABSTRACT

An analysis of videotex systems in regards to the provision of consumer information was conducted. The characteristics of videotex systems were shown to satisfy the objectives of an information system. These objectives included making information available quickly and on demand, providing information portability, enabling obsolete information to be updated/deleted in a timely manner, enhancing the cost-effectiveness of information provision, and improving the processability of information. This last characteristic, information processability, was shown to represent a breakthrough in information provision to consumers due to the computer assisted processing capabilities of videotex.

INTRODUCTION

Videotex systems represent a currently available, although underexploited, distribution channel for the provision of consumer information. Consumer information, for the purposes of this paper, is defined as price (suggested retail as well as actual prices), feature, and quality/performance product evaluations. Videotex refers to systems that enable persons with a terminal or personal computer to access information and services on-demand, using telephone or cable lines as the means of carriage. The potential strengths of videotex as a consumer information medium include the manipulation, analysis, and control of information and immediate access to the information source. In short, videotex represents not only a means to make information available, but provides the capability to augment the visual evaluation of information with computer assistance.

Thorelli (1980) predicted that the "next breakthrough in CI (consumer information) programs will be the computerized CT (comparative testing) utility." He stated that the greatest inherent advantage of these systems is the "dialog feature" which makes possible the tailoring of information/advice to individual preferences. The "dialog feature" can be thought of as the interactive capabilities between information seekers and the information provider, made possible by computer-assisted search and evaluating programs. Thorelli presciently concluded that new communications technologies provide "tremendous potential for the creation of new CI programs."

Other authors have also called for research and development of consumer information systems that capitalize on the strengths of emerging technologies. Beales et al. (1981) stated:

> "There is a need for efficient systems that deliver information that is tailormade to specific consumers, and viewed as reducing rather than increasing the consumer's cognitive efforts. ...such systems will have to incorporate the advances in both new hardware technology and consumer information processing research."

The realization of such information systems has not yet been fully achieved, although practitioners and researchers have implemented and studied alternative methods that use computer assistance in the delivery and analysis of product information. The videotex medium seems particularly well suited to satisfying the objectives of a consumer information (CI) system. This medium, therefore, will serve as the focal point of the following discussion. Most of this discussion, however, could also be applied to related technologies, such as touch screen type applications, expert systems, and the provision of information on floppy disks that could then be analyzed on personal computers.

This paper will first examine how videotex satisfies the objectives of a CI system in general. Following this, specific methods of presenting consumer information will be explored. The latter discussion will include an analysis of traditional paper based formats that could be presented over videotex, as well as computer-assisted methods that might enhance the acquisition and evaluation of CI. Before commencing with these focal points, however, a brief review of the nature and characteristics of currently available videotex systems will be provided as a frame of reference for the subsequent discussions.

CURRENTLY AVAILABLE VIDEOTEX SYSTEMS

In the United States there are over 650,000 subscribers connected to one of three major, national, text-driven (i.e., no graphics) videotex systems that include a consumer orientation (other systems also exist that have, by and large, a pure business mission). CompuServe (owned by H & R Block), the largest, has about 350,000 subscribers with an additional 8,000 being added each month. Dow Jones News/Retrieval has over 250,000 subscribers with roughly 4,000 being added each month. The Source (owned by Reader's Digest) has been holding steady over the past few years with about 60,000 subscribers.

Since these systems are similar, this section will examine only CompuServe as an illustration. In addition, a discussion of Comp-U-Card, a provider of information over all three systems, will be presented due to its innovative method of providing some types of CI.

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CompuServe

To connect with CompuServe, consumers need a telephone, computer or terminal, and a modem. It is also necessary to have software that enables the consumer's computer to "talk" with CompuServe's computers. The software package, which costs about $40, includes a usage credit to familiarize new subscribers to the system. Hourly rates vary depending on the time of day and the speed (baud rate) of the consumer's modem. In general, however, the typical home user will pay $6.00 per hour, using the slowest baud rate (which delivers information a bit faster than most people can read), during off-peak evening and night time hours.

The most popular services include the Electronic Mall, simulated CB where subscribers "talk" to each other, a national bulletin board, interactive games, and special interest group forums. Other services include financial and reference information, an online encyclopedia, travel and leisure information, news, sports, and weather, electronic magazines, and so forth. For an additional annual fee, subscribers can obtain Comp-Up-Card which is discussed below.

Comp-U-Card

The videotex element of Comp-U-Card's services constitutes a pricing and purchasing service that enables members to obtain suggested retail and "lowest" available prices, as well as a listing of each product's features. Price quotes for products carried on the system are generally 30 to 50 percent below suggested retail. Members pay $25 per year for the service and, according to Friday Report (1986), 4,000 new subscribers are being added to the videotex based service each month.

Comp-U-Card has stated that most members use the service for pricing information that can be used as leverage in negotiations with local retailers (Talarzyk 1986). Comp-U-Card, however, did report selling $90 million worth of products in 1985. Comp-U-Card began providing subscribers with computer-assistance in acquiring price/product information in 1981. A discussion of the system employed by the firm will be presented later in this paper.

THE OBJECTIVES OF A CONSUMER INFORMATION SYSTEM AND VIDEOTEX CAPABILITIES IN SATISFYING THEM

Russo (1986) states that "the success of any information system for consumers depends upon consumer acceptance and use." Maynes, Morgan, Vivian, and Duncan (1977) identified six relevant objectives in designing and evaluating the value of consumer information systems. To a significant degree, the achievement of these objectives will determine consumer acceptance of consumer information delivered over videotex. These objectives, somewhat modified for the purposes of this paper, include the availability, portability, delivery time, updating capabilities, dollar cost, and processability of information provided in a CI system. Another objective, market compatibility, has been added as an additional criteria. It is suggested here that each objective either is or could be positively addressed in regards to the dissemination of information over the videotex medium.

First, information can be made available where the consumer wants it--at home or at the point of purchase. A second related advantage is that the information delivered through videotex is portable, providing the consumer has a printer. Third, the information can be acquired quickly and on-demand, as opposed to requiring information seekers to retain back issues of consumer publications or make library searches for relevant information.

The fourth objective is the provision of perishable information, which can be updated in a timely fashion by the information provider to avoid the problem of obsolescence. Providing perishable information enables the information provider to reduce economic losses since "purchased" information becomes obsolete over time, thereby encouraging repurchase by information seekers and mitigating losses due to the transfer or resale of information.

The fifth objective is to provide information in a cost effective manner for both the supplier and buyer. Since videotex simply represents an alternative distribution channel for information already held by the information supplier, many of the costs of providing CI over videotex have already been incurred. That is, the costs associated with the research and development of the information are sunk, and new costs associated with distribution over videotex are not likely to be prohibitive since the videotex systems themselves currently exist. Although an indepth cost analysis is beyond the scope of this paper, it seems that market potential (discussed below) might be strong enough to offset the costs of distribution.

The sixth objective, market compatibility, investigates the likelihood of whether videotex subscribers are also likely users of information provided by product rating organizations. The markets seems very compatible since the profiles of videotex subscribers (Talarzyk 1986) match up quite closely with the profiles of subscribers to product rating magazines/services (Thorelli, Becker, and Engeldow 1975, McEwen 1978).

Thorelli, et al., for example, state that subscribers to Consumer Reports are wealthier and better educated, own a wider range of goods, are more communication active and more careful planners, are primarily male, and tend to be younger (heaviest users in the 25-34 year old age group) than the "average" consumer. As McEwen (1978) states, the profile represents "the person with the money, the communication skills, and the motivation to use intensive, objective product information." This profile matches up almost identically with the profiles of subscribers released by CompuServe and other videotex system operators (Talarzyk 1986). The videotex subscriber, therefore, represents a likely candidate for the use of electronically delivered CI.

The last objective of an information system is to enhance the processability of the information and/or enable information seekers to obtain only as much or as little information as is desired. This sixth objective is the focus of the balance of the paper and will be discussed in greater depth below.

In summary, it seems that the videotex medium inherently possesses significant advantages in regards to the provision of CI information. These strengths have not, however, been taken advantage of by organizations that provide consumers with expert product evaluations. A medium such as videotex, which lends itself so well to the provision of expert evaluations, would seem to be a very viable and useful method for enhancing information search by consumers.

METHODS TO ENHANCE THE PROCESSABILITY OF INFORMATION

Past research indicates that consumer utilization and acceptance of information hinges upon a cost-benefit analysis from the consumer's perspective; that is, the perceived benefits of information acquisition (e.g., paying lower prices and making better choices) using a given system must exceed the costs of acquisition (e.g., dollar costs, time costs, and mental and physical effort costs) (Stigler 1961, Russo 1986, Shugan 1980).

Videotex was shown in the previous section to hold promise in regards to: enhancing the availability of CI, by providing it where and when it is needed to videotex subscribers; in reducing time and physical effort costs related to CI acquisition; and in potentially keeping the expenses to create information and reach relevant markets at a reasonable level.

This section examines the remaining dimension, the processability of information, by analyzing methods that could be employed within a videotex framework that could lessen the mental effort required in the acquisition and evaluation of CI, and, perhaps, enhance the quality of the decisions made. The type of information used as the focus of the discussion will be expert evaluations of attributes such as those found in *Consumer Reports*, *Software Digest*, and other product rating magazines/books.

Russo, Kreiser, and Miyashita (1975) make a clear distinction between information availability and processability. They argue that the more processable the information is, the more likely that it will be used. These and other researchers (Crosby and Taylor 1981, Bettman 1979, and Wilkie 1975) have noted that information suppliers have often solely concentrated on increasing the amount of information available, without fully considering processability issues.

The two traditional methods of enhancing information processability have been to (1) provide information in formats which facilitate brand evaluations and interbrand comparisons, and (2) to "preprocess" or summarize brand information for the user in some fashion. Videotex allows for the development of a third method, the (3) provision of computer aids to the consumers to assist them in the acquisition and evaluation of CI. Following is a discussion of the characteristics, strengths, and drawbacks of each method.

Method One--Formats

Information provision formats, used alone, simply provide information in organized structures without attempts to make recommendations by the information provider. The three standard formats used to provide information include by-brand, by-attribute, and the brand-by-attribute matrix forms of presentation (c.f. Bettman 1979 for an in-depth discussion about each format).

The by-brand format enhances the formation of an overall brand evaluation. It does not facilitate, however, interbrand comparisons on individual attributes. Information about a brand's attributes is simply listed in one place, as is the case of information on the packaging of grocery store items, which makes attribute comparisons across brands difficult relative to the following methods.

The by-attribute method lists all brands' performances on a given attribute, usually in from best to worst order. *Runner's World*, for example, lists brands according to their performance on each of eight attributes. The decision maker, therefore, must combine information about a given brand from eight different lists, providing all eight attributes are relevant, to form an overall evaluation. This intrabrand combination task is a difficult one that likely precludes the overall evaluation of but a few brands.

The third traditional format is the matrix format. This format is the most widely used one by product rating organizations. The familiar *Consumer Reports* brand-by-attribute matrix is an example of this format. *Consumer Reports* goes a step further, however, and ranks the brands in from best to worst order based on the organization's view of overall quality/performance. This latter step is discussed below under Method Two. The information provider not desiring to impart its values in the presentation of information (necessary to combine ratings on multiple attributes), would likely present the brands in alphabetical order.

Studies comparing the value of the three formats indicate that the matrix format provides for quicker decision making and, when given a choice, is the preferred format by decision makers (Bettman and Zins 1979). Indeed, processing by either attribute or brand is facilitated with equal ease by the matrix format and would, on an *a priori* basis, appear to constitute the superior format in which to present product ratings.

A number of consumer researchers have encouraged information providers to adopt the matrix format (Capon and Burke 1980, Bettman 1975 and 1979, Russo et al. 1975; Wilkie 1975). The same recommendation is extended here to providers of electronically disseminated information. Finally, it is relevant to highlight that the matrix format can be used in conjunction with the following methods, which provide either rater recommendations or computer aid to the decision maker.

The major problem associated with using formats with no other aid provided to the decision maker (e.g., the matrix format with brands listed in alphabetical order) is that when the number of brands presented increases beyond five or six, decision makers have regularly been observed to adopt a phased processing approach (Payne 1976, Lussier and Olshavsky 1979, Billings and Marcus 1983). The first stage of phased processing constitutes a brand elimination phase. That is, decision makers typically use brand elimination heuristics (e.g., elimination-by-aspects and the conjunctive rules) to reduce the choice set to a relatively small number alternatives, which are then thoroughly evaluated. The use of screening heuristics means only a portion of all available information on the eliminated brands has been evaluated, which is at odds with the normative compensatory view of choice. The normative perspective assumes that all information has been evaluated and balanced to arrive at a decision.

The observed incorporation of a brand screening phase by decision makers, in choice sets of even moderate size, therefore, opens the possibility of mistakes (screening errors) being made. Further, with larger choice sets (those including roughly 10 or more brands) information overload might occur (Malhotra 1982, Jacoby et al. 1974), possibly resulting in random choice-like behavior. Finally, large choice sets are also more likely to result in the adoption of "pure satisficing" behavior, leading to a "choose the first acceptable brand" decision rule (Widing et al., 1986). Both of the latter courses of action might lead to the choice of not only a "lesser" brand for the individual, but possibly to the selection of a dominated alternative (a brand beaten by another alternative on at least one attribute and is no better than tied on the remaining attributes), which constitutes a clear-cut choice error.

In conclusion, the matrix format appears to be the superior "unassisted" format to present brand ratings. As the number of brands on which information is presented grows beyond five or six, however, processing errors are increasingly likely to occur. Given that it is not uncommon for 20 or more brands to be available for evaluation, the matrix format provides limited capabilities in enhancing information processability.

Method Two--Summary Ratings

A summary brand evaluation is an overall measure of a brand's performance/quality that is obtained by combining the scores of the individually rated attributes. The summary evaluations have typically been used to rank brands in from best to worst order. Oftentimes, the actually overall brand score is not provided and the rank order itself serves as the summary evaluation. In addition, the individual attribute ratings for each brand are generally available for perusal by the information seeker in a brand by attribute matrix.

The major problem with summary evaluations lies in the process of combining the attribute ratings to obtain an overall brand evaluation. In order to accomplish this task it is necessary to use some model to combine the individual attribute scores. The linear model, using "importance" weights to modify the contribution of each attribute to the overall evaluation, is typically used by ratings organizations to obtain the summary ratings (Beales, et al. 1981, Newman 1977, Software Digest 1984). This procedure constitutes the most critical and controversial problem with summary ratings; that is, people do not necessarily apply the same weights that the evaluator does (Day 1976).

Beales, et al. (1981), for example, report that magazines such as Consumer Reports suffer from a problem common to third party information providers, the inability to tailor information to one's own requirements without extensive effort. The authors stated that "the recommendations are most useful for consumers who place the same importance on the attributes as did Consumer Reports in determining summary ratings." While the consumer may elect to sort through the scores in a brand by attribute matrix accompanying the recommendations, this process is time consuming, mistakes can be made, and such a search might not be undertaken due to an inability or lack of willingness by the consumer. For individuals to gain control and use their own values in evaluating the information, therefore, they must spend time and effort to do so. Paradoxically, to the extent consumers do evaluate the individual attribute scores, the value of the summary rating is reduced.

Since importance weights are a matter of personal preference, a number of consumer researchers have opposed the provision of summary ratings (c.f., Day 1976). The primary arguments against summary ratings, due to the rater weighting scheme necessarily employed to obtain them, are that consumers might be misled (Winter 1975) and that they are inherently discriminatory against all but the top rated brand (Wilkie 1974). While summary ratings, accompanied by a brand by attribute matrix of scores, could certainly be provided over the videotex medium, this approach would suffer from the same limitations as those present in print versions.

Method Three--Computer-Assisted Processing

Computer-Assisted Cutoff Models.

Videotex provides the capabilities to provide consumers with computer assistance in the acquisition and evaluation of information. Examples of computer assistance as a tool to augment consumer information processing are beginning to emerge. Comp-U-Store, for example, provides consumers with the capability to screen out deficient brands through a conjunctive-like format. That is, users may specify "cutoffs" or required characteristics and only those brands that meet or exceed the specifications will be displayed for further visual evaluation by the consumer.

An example using the microwave oven product class is provided here to illustrate how an electronic version of the conjunctive model is used by Comp-U-Card. Consumers are first asked to specify the highest price they are willing to pay and are then asked to identify desired features from a series of multiple choice options. These options ask users to indicate if a countertop, wall mounted, or above range model is desired; to select desired power levels and cooking procedures; and to designate size/capacity, necessary features such as rotating shelves, and such. Only those brands that satisfy the specified requirements are made available for review.

Comp-U-Card's information acquisition format apparently reduces the effort required to search and has been reported to have led to a sharp increase in information usage shortly after its inception (Widing and Talarzyk 1982). Since a number of product classes featured in Comp-U-Card's database include upwards of 150 brands, computer-assistance seems to be a necessary tool for coping with these extremely large information loads. A similar conjunctive (i.e., cutoff) model could also be developed for analyzing product ratings; indeed, the number of brands presented to consumers could be greatly increased, while mitigating the possibility of information overload, by using this approach.

The computer-assisted conjunctive model, however, has no normative underpinnings in regards to indicating the "optimal" choice. The minimum values set may often not be true minimally acceptable, "must have" specifications, but standards of convenience useful in reducing the numbers of brands needed to be thoroughly evaluated. The model, therefore, is at best a "satisficing" model (Simon 1955) that is useful in reducing the effort required in choice. Although it is likely that the cutoff model will lead to the selection of a satisfactory choice, the procedure might preclude the selection of a more preferred brand. This is due to decision makers setting cutoffs that are not truly minimal, only desirable. The possibility exists, therefore, for a decision maker to screen out what would have been the preferred brand had it been thoroughly evaluated. Widing, et al. (1986) demonstrated this in a study which indicated that a significant proportion of decision makers did indeed inadvertantly eliminate more preferred brands (determined after the choice task) with a computer-assisted conjunctive model.

Computer-Assisted Linear Models.

The second computer-assisted model that has been used in decision aiding, although not on videotex systems, is the linear model (i.e., weighted averages). This is the same model used by ratings organizations to generate overall evaluations for each brand, which are then used to rank order brands in from best to worst order.

Linear models have been advocated by decision scientists for structuring and aiding personal and group decision making (Edwards et al. 1977). The procedures advanced by Edwards and his associates are, in essence, identical to those used by rating organizations (Newman 1977), except that the individual's importance weights, as opposed to the rater's weights, are used to generate the weighted average brand scores. The procedure may not guarantee that the best choice will be made, (Edwards et al. 1977) but that at least a good choice will be made (providing the individual's importance weights have been used).

Following is an illustration of this approach using Software Digest (1984), the "Consumer Reports" of the computer program industry, as an example. Typically, Software Digest evaluates between 20 and 30 brands of a given type of software program (e.g., wordprocessing, spreadsheet, database management) in each issue. Each brand is rated on a 0 to 10 point scale on 6 attributes. These include various "Ease-Of" attributes, performance, versatility and error handling. The scores for each brand are weighted by their importance, and the weighted scores are added together to obtain an overall evaluation. The brands are then ranked in from best to worst order according to these weighted averages. This importance weighting procedure has been cited earlier as the major shortcoming of the summary rating approach.

Software Digest, however, added a new service that overcomes this limitation by allowing the user to personalize the brand evaluations and subsequent rank orders. This is done by allowing the consumer to specify the attribute importances, which are then used to generate the weighted average for each brand. Provided below is a description of the service in Software Digest's own words:

> "Accompanying each Primary Data Report will be a disk duplicating the printed data. The disk will also contain a special program enabling you to assign your own relative weights to the various evaluation criteria and automatically calculate ratings and rankings of the programs to determine which programs are best suited for particular requirements."

This service could be offered by other third party rating organizations over the videotex medium. Since the primary objective to currently available summary ratings is the rater weighting of attribute information, which might unduly influence decision makers, this approach eliminates a major point of controversy. In addition, it enhances the likelihood that better decisions would be made on the part of the consumer. Providing that certain conditions are met concerning the nature of the attribute information, this procedure might reduce processing errors and effort in search, and increase the quality of the choice made. This is due to the higher scoring brands on the most important attributes being ranked towards the top of the list.

Since linear models have been repeatedly shown to be robust in the prediction of preferences (c.f., Dawes 1979) and are consistent with normative decision making criteria (i.e., use all available information and balance the information), the provision of linear models seems appropriate. One major constraint to the use of the linear model in such a fashion is that the attributes used in the model must meet the monotonicity assumption. That is, the higher the attribute score, independent of the other attributes, the greater the preference for a brand.

The information provider, therefore, must be able to assume that a higher score on an attribute is better for all (or most) people, or at least not worse. This rules out including attributes best described by ideal points across individuals (e.g., violence or sex in movies, sweetness or spice levels in foods), as well as attributes in which all (or most) people do not share a common direction of preference (e.g., racial balance in schools when evaluating places to live--for some people the greater the level of integration the better and, for others, the less the integration the better).

Fortunately, most of the attributes evaluated by expert organizations meet the monotonicity assumption. For example, people like better performance/quality than worse (independent of other attributes), prefer things that are easier to use than more difficult to use, and so on. A computer-assisted linear model, as described above, therefore, is especially appropriate to provide in conjunction with evaluations made for most product classes.

The personalized rank order of brands, nevertheless, ought to be accompanied by the individual attribute scores in a brand by attribute matrix. This is because factors other than the weighted average of attribute scores might enter into the choice process. For example, the brand with the highest weighted average may possess one attribute score that is too low for the individual, resulting in preference for another brand. The format should, in any case, provide for the enhanced organization of information due to the best to worst ordering generated using the decision makers importance weights.

CONCLUSION

Videotex, as a medium to provide consumer information, has been evaluated on several levels in this paper. The medium was shown to satisfy the objectives of an information system in a number of ways. Videotex provides a means to make CI readily available, quickly and on demand; enhances the portability of information (with the aid of a printer); allows for the timely updating of obsolete information; offers the potential of being reasonably priced; and offers a subscriber base that matches up quite well with the profiles of actual users of product ratings and price information. As a CI system, therefore, videotex seems to offer a great deal of promise.

In addition to the advantages offered by the general system characteristics, videotex offers the potential to enhance the processability of consumer information relative to that provided by traditional print presentation methods. Computer-assisted methods were described that might reduce both mental effort and errors in decision making and, possibly, increase the likelihood of information usage and enhanced decision making.

The computer assisted methods provide new opportunities to overcome problems associated with satisficing behavior and information overload, while actually enabling an increase to be made in the amount of information (i.e., number of brands and attributes) from which to make product related decisions. In addition, problems associated with the weighting and ranking of brands, according to the rating organization's perspective, can be overcome through the provision of individually weighted linear models.

Although the provision of rating information over videotex with traditional paper based methods can be easily accomplished (e.g., ranking brands from best to worst accompanied by attribute scores in a brand by attribute matrix), these methods do not take advantage of the unique strengths of videotex systems. These strengths include the computer assisted capabilities of combining, sorting, and ranking information according to user desires.

It is also important, however, to conduct further research on the computer assisted processing methods. Research on the advantages, pitfalls, and tradeoffs of alternative methods, some of which are yet to be identified, needs to be undertaken. For example, the finding cited earlier, concerning the possibility of decision errors with the conjunctive model, constitutes a pitfall which needs to be more fully researched.

Pittle (1984) discussed a situation where Consumer Reports staff people tried their hands on a computer program that would allow consumers to assign their own weights to various performance factors to produce their own personal rankings. He reported that in a test on video cassette recorders they could not do it. He stated, "Confronted with an array of more than a dozen features and performance attributes that CU had tested, they simply had no basis to make judgements about weighting the individual quality factors. They threw up their hands in despair."

Our research indicated, however, that with some instructors, subjects could make the necessary judgements and work with the resulting evaluations. The experiences of the CU staff do point out the importance of understanding how to present the information to consumers and how to train them to use the system. Much more research needs to be done in this area.

Specifically, research on computer assisted methods/models is needed to: identify potential sources of error of alternative computer assisted methods; determine the value of alternative methods/models over currently available alternatives and each other (e.g., on issues such as decision quality, effort, and time); measure consumer reactions to alternative models (liking, usefulness, and such); examine how difficult alternative methods are to learn and use; as well as to study other issues related to the value of computer assisted decision making.

The authors recommend that the providers of product rating information begin to present their information over videotex systems and research the capabilities and problems associated with computer assisted tools. This would likely add value not only to the product rater's offering, but to the value of videotex systems in general. Further, and most importantly, videotex delivered consumer information would represent an additional step towards the goal of having consumers making more informed product decisions.

REFERENCES

1. Beales, H., Mazis, M., Salop, S., and Staelin, R. "Consumer Search and Public Policy." Journal of Consumer Research 3 (1977):233-240.

2. Bettman, J. and Zins, M. "Information Format and Choice Task Effects in Decision Making." Journal of Consumer Research 6 (1979):141-153.

3. Billings, R. and Marcus, S. "Measures of Compensatory and Noncompensatory Models of Decision Behavior: Process Tracing versus Policy Capturing." Organizational Behavior and Human Performance 31 (1983):331-352.

4. Dawes, R. "The Robust Beauty of Improper Linear Models in Decision Making." American Psychologist 26 (1971):180-187.

5. Day, G. "Assessing the Effects of Information Disclosure Requirements." Journal of Marketing 40 (1976):42-52.

6. Jacoby, J., Speller, D. and Kohn C. "Brand Choice Behavior as a Function of Information Load: Replication and Extention." Journal of Consumer Research 1 (1974):33-42.

7. Lussier D. and Olshavsky, R. "Task Complexity and Contingent Processing in Brand Choice." Journal of Consumer Research 6 (1979):154-165.

8. Malhotra, N. "Information Load and Consumer Decision Making." Journal of Consumer Research 8 (1982):419-430.

9. Maynes, E., Morgan, J., Weston, V. and Duncan, G. "The Local Consumer Information System: An Institution To Be?" The Journal of Consumer Affairs 11 (1977):17-33.

10. Payne, J. "Task Complexity and Contingent Processing in Decision Making: An Information Search and Protocol Analysis." Organizational Behavior and Human Performance 16 (1976):366-387.

11. Pittle, R. "Product Quality: Who Decides It-?" 1984 ACCI Proceedings:80-84.

12. Russo, J. "From Passive to Active Information Systems for Consumers." paper prepared for the symposium, "New Challenges for European Consumer Policy." University of Hohenheim, Stuttgart, March, 1986.

13. Shugan, S.M. "The Costs of Thinking." Journal of Consumer Research 7 (1980):99-111.

14. Simon, H. "A Behavioral Model of Rational Choice." Quarterly Journal of Economics 69 (1955):99-118.

15. Stigler, G. "The Economics of Information." Journal of Political Economy 69 (1961):213-225.

16. Talarzyk, W. "Electronic Retailing In The United States: Trends and Potentials." Proceedings of the EPOS/EFPTOS Conference, October 8, 1986, Barbican Centre, London, pp. K1-K-11.

17. Thorelli, H. and Thorelli, S. Consumer Information Systems and Consumer Policy, Cambridge, MA: Ballinger Publishing, 1977.

18. Widing, R., Burnkrant, R. and Talarzyk, W. "Computer-Assisted and Static Information Provision Formats: Comparisons on Reactions, Time and Accuracy." Proceedings of the AMA 1986 Educators' Conference, August, 1986, pp. 74-79.

19. Widing, R. and Talarzyk W. "Videotex Project Reviews II." Ohio State University, Working Paper Series (1982), WPS82-16.

20. Wilkie, W. "How Consumers Use Product Information: An Assessment of Research in Relation to Public Policy Needs." Washington, D.C.: U.S. Government Printing Office, 1974.

21. Winter, F. "Laboratory Measurement of Response to Consumer Information." Journal of Marketing Research 12 (1975):390-401.

FORECASTING PUBLIC POLICY ISSUES AFFECTING CONSUMERS IN DIRECT MARKETING: AN ANALYTICAL APPROACH

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ABSTRACT

A large menu of recent specific consumer issues and problems are indicative of some of direct marketing's characteristics. More comprehensive methods of evaluating this industry's interactions with consumer interests, however, are needed to identify future issues of significance.

The continued growth of innovations in direct marketing will make it an even more important industry affecting consumers in the future. Directions for public policy research are suggested to improve the forecasting of likely conflicts and issues.

INTRODUCTION

Direct Marketing is a rapidly growing and significant form of marketing that has received little comprehensive review from the perspective of the consumer interest.

There is a compelling need to analyze the field because of notable inattention to the subject by analysts outside of the industry generally. The consumer interest is but one facet, long neglected.

The industry is rapidly changing due to information processing technology advances and expanded use of video technology among other developments (1).

More serious to the consumer interest are visible and recurring consumer privacy and deception issues illustrated by the following specific occurrences. Most are unusual compared to other forms of retailing and some can only occur in direct marketing situations. The specific cases justify further inquiry and raise larger policy questions for research.

Common and acceptable practices in direct mail marketing include:

1. Not disclosing postage and handling charges in advertising. Much advertising features prices to which such charges will be added and the charges can exceed the price of the product.
2. Not disclosing key terms of book club (and similar subscription) purchases such as advance notification of shipments, all costs involved, and cancellation requirements.
3. Negative option subscription-type selling plans where customers must refuse every offer they do not want to receive and pay for over an extended period.
4. Undisclosed refund policies which often do not include postage reimbursement.
5. Misleading contests in which as many as 24 companies are using, simultaneously, the same contest prizes. Customers are not clearly told that the contest prizes will be divided among entrants from many companies rather than just the customers of the one soliciting their business.

Common and acceptable practices in telephone marketing (telemarketing) include:

1. Calling at any time of the day.
2. Calling anyone regardless of his preference not to be called.
3. Calling persons with unlisted telephone numbers.
4. Using automatic dialing systems and recorders which call anyone.

Common and acceptable practices in direct marketing via television include:

1. Refund policies and information which are disclosed only in the original television advertisements. Firms and their addresses for refund purposes may not be disclosed with the order itself.
2. Unverifiable comparative prices used by some shopping networks imply discounts in excess of 50% are offered on most products.
3. Instant impulse decisions are pressured for or required on complex shopping goods such as electronic items and sophisticated jewelry. Such standard practice is not considered as a sale on approval or for examination although sales are subject to full refund.

These practices are neither effectively regulated nor prohibited under federal law. They sometime confound and irritate consumers, but also may occur without any notice or adequate information. They largely escape the reach of state regulators. While many are of concern to progressive members of the direct marketing industry, self-regulation is largely concerned with privacy issues rather than deceptive practices. Self regulation, of course, has no force of law to deal with firms who elect not to observe the ethical standard of their competitors.

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In this paper, these and other issues are the focus of the analysis of the industry and its interactions with the consumer movement.

DIRECT MARKETING INTERACTION WITH THE CONSUMER MOVEMENT

Direct marketing organizations operating in the consumer marketplace ultimately have identical interests with consumers.

To the extent that consumers are satisfied, direct marketers should profit in a well run or orderly market. Even non-profit and political organizations need to utilize marketing as an organizational imperative because it serves and satisfies human needs, however they may be developed (17).

Consumerism, a movement representing the interests of consumers, however, has evolved, in part because the interests of consumers have not been adequately served.

Peter Drucker and others have called consumerism the result of the failures of marketing to do its job in the economy (6).

While Drucker is typical in his criticisms of marketing based on the classical economic axiom that the purpose of all production is consumption (i.e. consumer satisfaction), like others he had been also more positively optimistic about the social potential of marketing a few years earlier before the resurgence of the consumer movement (5).

Experiences of many industries with consumerism have been both positive and negative. Clashes with consumer organizations and representatives have led to outcomes ranging from new laws and regulations to innovative marketing approaches. Cooperation with consumer organizations has alleviated problems, increased communications, and stimulated voluntary changes in the marketplace to the advantage of producers and consumers.

Burgeoning growth, some experience with consumer and government criticism, and innovative marketing practices, together suggest that direct marketers also stand to benefit from an understanding and appreciation of consumer organizations.

In a complex society of institutions and groupings of interests, consumer groups find educational, social, political party, and religious organizations will on occasion become involved in consumer public policy matters as well.

Given the breadth of the consumer movement and its flexibility in responding to nearly any matter affecting consumers, direct marketing can expect interaction with consumerism.

There are a number of identifiable generic characteristics of the industry which increase the probabilities that it will need to anticipate and understand the consumer movement's purposes, methods and abilities to achieve its policy goals.

CHARACTERISTIC OF DIRECT MARKETING OF IMPORTANCE TO THE CONSUMER INTEREST

1. Direct consumer contact eliminates the difficulties that many individual consumers have in ascertaining the responsible selling parties in complex marketing systems. It is difficult to act against an array of sellers in traditional systems when the manufacturer is difficult to even locate, a series of middlemen are involved, and the retailer is the only direct contact. Mixed local, state, or federal jurisdiction may complicate the pursuit of a complaint against the parties. The various firms involved can delay and confuse all but the most determined consumer, consumer organization, or even a third-party complaint handling agency. The direct marketer can rarely hide his company from complainants and thus may be less inclined to avoid responsibility for an alleged consumer problem.

2. Direct marketing, especially pre-sale activities and communications strategies, is highly visible to consumers. Consumers are able to evaluate what they can see and hear, and adverse reactions can occur. Print media are especially susceptible because such communications can become documents in a complaint or other consumer action. Radio and television ads can also be recorded for legal purposes. A large scale promotion is legally vulnerable because essentially only one valid complaint can lead to serious problems for the seller.

3. The direct marketer often relies on a single forceful communication to produce many sales results. The direct response from a single mail or phone communication can mean the full decision process, subject to many influences beside the efforts of marketers, occurs: a sale is made (24).

   Much literature on consumer decision making uses multi-step concepts such as "AIDA", (Attention, Interest, Desire, Action), or "AIETA", (Awareness, Information, Evaluation, Trial, Adoption), but more complex models are also found. Marketers create a sale, contribution, or other revenue response only if consumers are successfully led through all the steps and meet all the conditions of the model.

   In order to achieve sales responses, direct marketers must get attention, provide appealing information, make the person want to take some action (such as the preference or choice of a service, product, or even a political cause), and then usually commit money. The appeals and information necessary to accomplish all of this may be powerful, considered illegal or offensive by some, and thus generate complaints (22, 25).

4. The mail and telephone seller is often operating from an outside community or from another state. This marketer may be unable to get equal treatment compared to competing local firms, usually retail stores. There is little face-to-face ordinary communication with local regulators, law makers, third-party complaint handling agencies, and the consumers themselves. Unless the problem is especially grave and thus worth travel costs or retaining local representation, the direct sellers are strangers and unknown. They may get uneven treatment partly because they cannot negotiate efficiently from afar and partly because they are not "home" businesses from the community or state. Customer perception of the distant company is essentially that it is "foreign" or not part of "the community." This lack of local identity magnifies the fears of consumers who cannot contact the seller quickly and without expense to clarify, confront, or otherwise communicate readily. Consumers who prefer personal contact such as is possible with retail stores may not be fully satisfied at all with direct marketing methods. Fear and distrust, often aroused by the pre-sale direct communication and also by post-sale experiences, can cause consumers to react and complain strongly.

5. Special laws and regulation aimed at direct marketing simply don't apply to other general marketers (8, 9, 10).

6. The current image of direct marketing is hampering its relations with consumers and public policy makers. There are off-setting positive elements in the image as a result of specific customer policies, trade association standards, and positive customer experiences (12).

The degree of customer problems is reflected in part in attempts in the past in law and regulation as well as innovative trade programs to deal with the issues.

The Direct Marketing Association has maintained a Mail Preference Service since 1971 and a Telephone Preference Service since 1985 to allow consumers to be removed from customer lists of direct marketers who cooperate in the programs (2, 11). These programs have possibly staved off legislation which would have been more restrictive (7, 21).

There have been specific scandals involving direct marketers which have drawn media attention unfavorable to the industry (16). As a result, routine advice given to consumers tends to describe direct marketing as especially treacherous and risky (3, 13, 15, 20, 23).

Ease of entry into the direct marketing field is possible with a very modest amount of resources. There is essentially little required beyond the simplest of communications such as classified advertising or a few pieces of mail to enter the business. There are no licenses, capital requirements, or other pre-market hurdles for many goods and services marketers. Some amount of deceptive direct marketing by unregulated new entrants will succeed in ensnaring customers for the foreseeable future.

The frequent fact that potential customers will be receiving communications from unknown, unfamiliar, and distant sources can only contribute to the perception that direct marketing is not as trustworthy a marketing method as its competitors. Distance alone is a factor in causing fears in customers that service, complaint resolution, and handling of problems will be difficult. Many marketers have developed policies to deal with this concern.

Contributing further are frequently observed industry practices which customers often find repugnant. Kurtz lists a litany of techniques, such as official looking envelopes. He further declares that there is little to fear as a seller when an otherwise reputable mailing can result in a few "deceived" prospects that generally don't hurt the bottom line results (18). The "negative option," a direct marketing institution, remains objectionable to many consumers in spite of its long history (4).

Teaser methods are widely used because the opening of the envelope is such a cornerstone of successful mail marketing dogma. Even telephone marketers often must mask their intent with customers, too. As marketers seek to find ways to cause consumers to open mail and stay on the phone, even sharper practices are likely.

Consumers have often cited their frustrations with some direct marketing practices. Largely, consumer frustration has not yet been followed by laws or regulations to rid the practices that offend. This has not been for lack of suggested remedies, however (14).
In particular, computer automated dialing telephones have been receiving the attention of the Federal Communications Commission. The U.S. Office of Consumer Affairs supported limits on their use in 1978. Humorous tactics to befuddle unwanted sellers or other callers are becoming an item of some cultural significance in the U.S. (19).

FORECASTING CONSUMER ISSUES IN DIRECT MARKETING IN THE FUTURE

Consumerism is likely to continue in importance to direct marketing simply because of the range of problems and potential problems in combination with millions of diverse contacts and transactions daily.

The difficulty is found in identifying major priorities at any given time in the evolution of the movement as well as the industry. The most reliable approach to constructive methods of problem solving for the industry is early recognition of issues and practical approaches to their resolution. Individual firms' behaviors, of course, will continue to be the underlying cause of consumer group responses. The industry may be able to solve many problems through prevention policies that recognize the concerns of consumers and their representatives.

There are likely to be clashes and problems in so diverse an industry. The characteristics of the industry such as geographic distance, high visibility, special laws and regulations, ease of entry, and especially the widespread questionable practice of many of its members appear to guarantee serious conflicts with consumers concerned with privacy and deception. The industry is progressive in its initiatives on privacy, but it has yet to prove its ability to control widespread deceptive practices of fringe operators. Highly regarded members of the industry have their share of questionable practices and consumer confrontations appear inevitable.

REFERENCES

1. "American Retailing: Soft Sell." Economist, March 28, 1987. pp. 70-71.

2. "Can Anything Be Done?" Target Marketing, March, 1987. p. 34.

3. "Caveats for the Postal Shopper." New York Times. November 5, 1986. p. C8.

4. Cleaver, Joanne. "Writing the Book on Negative Option." Advertising Age. October 11, 1984. p. 46.

5. Drucker, Peter F. "Marketing and Economic Development." Journal of Marketing. January, 1956. pp. 252-259.

6. __________. "The Shame of Marketing." Marketing/Communications. August, 1969. pp. 60-64.

7. Edwards, Paul L. "DMA Hopes TPS Can Hang Up Tough Phone Laws." Advertising Age. May 20, 1985.

8. Federal Trade Commission. Shopping By Mail. Washington, D.C., April, 1983. (Pamphlet).

9. __________. Holiday Shopping: By Phone Or Mail? Washington, D.C., November 8, 1984. (Pamphlet).

10. __________. A Business Guide to the Mail Order Rule. Washington, D.C., 1986. (Pamphlet).

11. Federal Trade Commission, Direct Mail/Marketing Association. Make Knowledge Your Partner in Mail Order Shopping. Washington, D.C. (n.d.) (Pamphlet).

12. "Gallup Survey." Target Marketing. September, 1986. p. 15.

13. Higgins, Kevin. "Personalized Direct Mail Runs from Novelty to Standard." Marketing News. July 4, 1986. p. 7.

14. "Horowitz Fights Back." Target Marketing. March, 1987. pp. 32-34.

15. Jerkins, Linda. "Shopping: The Mail of the Species." Washington Post. October 28, 1986. p. D5.

16. Hockstader, Lee and Smith, Philip. "Downfall of a Fund-Raiser Leaves a Tangle of Deceit." Washington Post. January 18, 1986.

17. Kotler, Philip and Levy, Sidney J. "Broadening the Concept of Marketing." Journal of Marketing. January, 1969. pp. 10-15.

18. Kurtz, Brian. "Sometimes 'Deceit' May Not Be So Bad." Advertising Age. August 18, 1986.

19. "Letters to the Editor." New York Times. August 25, 1986.

20. McTigue, Gerard. "Opening Mail Can Be Hazardous to Your Psyche." Advertising Age. May 28, 1985. pp. 56.

21. Ross, Jeanne. "DMA Markets Business Ethics," Target Marketing, September 8, 1985. pp. 65-66.

22. Sabato, Larry J. "Mailing For Dollars." Psychology Today, October, 1984. p. 38.

23. "Shearing the Suckers." Consumer Reports, February, 1986.

24. Sinclair, Ward. "Send Seeds." Washington Post Magazine. April 6, 1986. p. 10.

25. Wentzel, Michael. "How Marketing Strategists Manipulate Our Minds." Baltimore Evening Sun. October 5, 1984. p. B2.

USING A "SHAREWARE" SPREADSHEET IN AN INTRODUCTORY PERSONAL FINANCE COURSE

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The use of computers in small personal finance courses is not uncommon, but computer use in introductory courses is probably limited by the mechanics of dealing with large numbers of students. There are also either legal or financial problems with most software. Even some software with special classroom prices may cost $30 per student. One solution can be public domain software, although often this type of software may suffer from inadequate documentation and flaws. Shareware provides a similar solution. One example of shareware software is "AsEasyAs", which is a spreadsheet program similar to Lotus-1-2-3. "AsEasyAs" is copyrighted, but the first screen that appears contains the message "You are encouraged to copy and share this program (but NOT the manual) with other users..." Thus, with appropriate templates (including some developed for Lotus-1-2-3) each student can be provided with his or her own program disk, to use in any computer lab with an IBM-compatible computer, or on his or her own personal computer. An earlier version of "AsEasyAs" contained numerous 'bugs', but the latest version contains a detailed manual and worked well for two templates used in an undergraduate class of 90 students. It may be ordered for $30.00 from TRIUS, Inc., 15 Atkinson St., Lynn, MA 01905.

The educational purpose of giving students experiences with financial software is not obvious. With limited time and a diverse group of students, one must be very selective. For a class of almost 90 students in an introductory, sophomore level course, "Family Financial Management", I chose to develop two spreadsheet templates, one for an annual budget, and one for net worth projection. The templates included some hidden calculations. For instance, the net worth template starts with a net worth statement for today, then if the student enters average annual contributions to various types of investments for the next 10 years, the future value of each type of asset will be calculated. The future balance on a home mortgage is calculated, etc. A student can carry the projections through for the next 20 years. The annual budget template calculates approximate USDA food budgets for comparison, along with federal and state income tax calculations. Students are encouraged to use a hypothetical family or their own if it is more complex than a single student living in a dorm.

The student is able to experiment and see the effect of changes on the annual deficit/surplus or on net worth without making tedious calculations.

I developed very detailed instructions for each exercise, so that students with some computer background might be able to work on their own. For most students, time was scheduled in a campus computer lab with 20 computers. Some students did not know how to turn on the computer, while others were more sophisticated. After about an hour of work in the lab, many students were capable of continuing independently.

I will provide copies of the instructions, and a copy of the spreadsheet (without the manual) and the templates to anyone sending a blank 5.25 inch double sided double density disk in a SASE disk mailer. The disk should work on any IBM-compatible computer. Send to: Sherman Hanna, The Ohio State University, 1787 Neil Avenue, Columbus, Ohio 43210-1295.

There are two batch files on the disk which allow the user to start the spreadsheet automatically by booting the computer or by typing EASY after the computer is on.

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FINANCIAL SATISFACTION IN RELATION TO FINANCIAL MANAGEMENT

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SUMMARY

Purpose

The purpose of the study was to determine the extent of adoption of selected financial management practices by Extension Home Economics program participants. Research interest was focused on the relationship between the adoption of selected financial management practices and the level of satisfaction with financial management. In addition, the relationship between level of financial satisfaction and the following variables was determined: age of respondent, wage earner status, area of residence, membership in Extension Homemaker Clubs, and number of household members. Information from a 1985 Louisiana Cooperative Extension Service Adult Planning and Management (Home) Impact Study provided the data for the investigation.

Methodology

Questionnaires were mailed to 400 randomly selected Extension Home Economics program participants throughout Louisiana. The sample consisted of 203 program participants. Data were analyzed using frequency distributions, chi-square, and analysis of variance. The level of significance was set at $\alpha = 0.05$.

Conclusion

The Cooperative Extension Home Economics participants in this study had adopted many of the financial management practices which financial advisors recommend. Over two-thirds of the respondents stated that they usually: could find financial records when needed (94%); kept records of bills paid (92%); contacted creditors to reconcile differences (90%); had a plan to pay basic expenses (87%), had a realistic budget for the family (81%); balanced checkbook monthly (85%); saved for emergency expenses (65%); and had personal spending allowances for family members (66%). The participants were less likely to: save for long-term goals (57%); record income and expenses to determine monthly deficit or savings (57%); and prepare a net worth statement to determine family assets and liabilities (31%).

The majority of the sample expressed satisfaction with their financial management. Half (50%) of the respondents were very satisfied, 42% were somewhat satisfied, and 8% were not satisfied. Satisfaction with financial management was not affected by wage earner status, area of residence, and membership in Extension Homemaker Clubs. Two variables, age of the respondent and number of people living in the home, did significantly affect financial satisfaction. Older respondents were more satisfied with their financial management than younger ones. Three-fourths (75%) of those 65 years of age or older were very satisfied with their financial management situation, while 6% of those under 40 were very satisfied. Those 41-64 years of age ranked in the middle (48%). It is possible that as people became older they had increased income and/or less demands on income (i.e., child care expenses, personal property acquisitions, etc.) and thus felt more satisfied with their current financial situation.

As the number of people living in the household increased, the satisfaction with financial management decreased. It is feasible that the greater number of individuals in the household caused additional strain on income. Another possibility may be that an interaction with age existed. For example, since young respondents were the ones most likely to have children, the younger individuals probably were living in larger households.

The use of financial management practices was related positively to financial satisfaction. With the exception of preparing a net worth statement, larger percentages of respondents who were very satisfied followed the practices as compared with those who were somewhat satisfied or dissatisfied. For example, 84% of those who were very satisfied saved for emergencies, and 45% of those who were somewhat satisfied and 37% of those who were dissatisfied followed this practice.

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STRESS EXPERIENCED BY DAIRY FARM COUPLES

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ABSTRACT

The study identified sources, levels and symptoms of stress experienced by dairy farm couples. A random, stratified sample was drawn and interviews were conducted with husbands and wives in 1986. Findings, from preliminary data on 79 couples, showed that about half of the husbands and wives were experiencing each of four stress symptoms. The usual stress level was moderate but levels varied widely over the year.

The close interaction between family life and farming brings all family members into daily contact with the financial problems currently plaguing American farm families. Even those families not experiencing problems are concerned about their financial future. This study is limited to families on dairy farms because the dairy industry is highly capital intensive (USDA, 1985). Many dairy farms expanded during the 1970s and early 1980s under the assumption that dairy prices would remain high and land values would continue to appreciate. Since that time, the opposite has occurred.

The purpose of the study was to identify the symptoms of stress being experienced by husbands and wives living on dairy farms in Utah, as well as the sources and levels of stress.

METHODS

A random sample of dairy farms was drawn from records of current dairy farms in the state. The sample was stratified by county and by size of dairy herd. The completed sample will be over one hundred dairy farm couples. This preliminary report represents the 79 couples whose data were available for analysis. Two interviewers conducted separate, simultaneous interviews with the husband and wife in 1986.

FINDINGS

When asked about their health, husbands reported the following symptoms: depression, 49 percent of respondents; tension and anxiety, 48 percent; difficulty relaxing, 45 percent; and trouble sleeping, 41 percent. The wives reported the following symptoms: depression, 47 percent; tension and anxiety, 56 percent; difficulty relaxing, 56 percent; and trouble sleeping, 42 percent.

A ladder scale measured stress levels. Nine represented the most and one the least stress a person is likely to experience. Mean scores for the usual amount of stress in the past year were 4.1 for husbands and 4.4 for wives. The stress levels experienced during the least and most stressful weeks last year were 2.3 to 7.4 for husbands and 2.1 to 7.7 for wives.

Life events have been found to predict future illness (Rubin, et al., 1969). A list of 48 possible events was read to respondents. They reported whether the event occurred, and, if so, the extent of adjustment made. Adjustment was measured on a five-point scale, with five representing the greatest adjustment. The five life events which husbands reported as requiring the most adjustment were: high debt load, 3.7; own illness, long term, 3.5; own illness, critical time, 3.5; commodity price drop, 3.3; and new government dairy programs, 3.2. Wives mean scores for the five events requiring the most adjustment were: another family member starts drinking heavily, 4.7; retirement, 4.3; own illness at a critical time, 4.2; commodity price drop 3.7; and new government dairy programs, 3.7. Among items which required the most adjustment, two were also among the most frequently occurring for both husbands and wives. These were new government dairy programs and a commodity price drop.

DISCUSSION AND SUMMARY

The symptoms reported by husbands and wives, indicate they are feeling stressed. Further analysis will be needed to determine whether the source of the stress is the farm's financial situation. Wives experienced slightly higher stress levels. Perhaps the wife's less direct role in farm work and management results in higher stress. Many of the life events which husbands and wives judged to require the most adjustment were related to the dairy farm operation. Family events, after further analysis, may be found to relate to the farm's financial situation as well.

In sum, many dairy farm couples reported several stress symptoms. Many of the life events requiring the greatest amount of adjustment are farm financial factors or may be associated with farm financial factors. Further analysis is needed to determine whether dairy farm couples who are experiencing different financial situations are also experiencing different levels and symptoms of stress.

REFERENCES

Rubin, R.T. and Gunderson, F.K.E. (1969) Prior Life Change and Illness Onset in an Attack Carrier's Crew. Archives of Environmental Health, 19: 753-757, November.

U.S. Dept of Agriculture, ERS (1985). Financial Characteristics of U.S. Farms, January, 1985. Agricultural Information Bulletin Number 495. Washington, D.C.: U.S. Dept. of Agriculture.

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A SYSTEMS APPROACH TO ANALYZING CRITICAL FINANCIAL MANAGEMENT COMPETENCIES

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ABSTRACT

The purpose of this research was (1) to identify financial management behaviors related to the two primary financial competencies identified by White [5] and (2) to consider the relationship of these competencies to basic management principles. The data suggest that although this middle class sample demonstrated some level of the financial management behavior expected, this behavior did not afford them financial security as most had financial worries.

INTRODUCTION

Recent research of White [5] and Mueller [3] has provided useful insights into financial management competencies in the context of a managerial systems model. White [5], using a Delphi technique with 21 nationally recognized financial experts identified 16 financial management competencies adults need to effectively manage financial resources in the economy expected for the next 15 years. Using "debt-to-income ratio" as the output measure of household solvency, Mueller [3] tested the managerial systems model in relation to household money management. Using these findings and the Deacon and Firebaugh systems model of management [1, 2] as a foundation, this research evolved. The purpose of the study was to identify financial management behaviors related to the two primary financial competencies identified by White [5] and the relationship of these competencies to basic management principles.

METHODOLOGY AND SAMPLE DESCRIPTION

Data were collected in November 1986 from a 50% random sample of the 1,980 county government employees, both service and administrative workers. The county is part of the Washington, D. C. Standard Metropolitan Statistical Area. Usable data were collected from 461 respondents, a 47% return. The sample who responded to the questionnaire generally can be described as primarily white females from dual income, middle class households.

FINDINGS AND DISCUSSION

The two most important competencies identified by White [5] were: (1) the use of sound management principles in the establishment of a comprehensive financial plan and (2) the identification of goals as a basis for financial management decision making. As a preliminary measure of these financial management factors, this research considered some of the "sound management principles" which would underly the development of such a comprehensive plan.

Results suggest that the majority of the respondents were aware of both their financial goals and resources. Approximately three-fourths (73.8%) of the population reported that they had identified some specific financial goals for the future. Over half (56.6%) responded that "yes" they generally felt they had enough money to manage daily expenses and to meet basic needs. Two out of three (65.5%) felt that they would be able to manage the moderate demand ($500-$1000) of an unexpected crisis. These factors were considered an input to the financial management system.

Contingency plans, spousal communication, and decision making style were considered inherent in the throughput process of the financial management system. Less than 5% of those respondents with identified financial goals indicated that they would ignore the goals should expected income prove inadequate. The majority of the respondents (50.1%) had identified specific financial goals as well as contingency plans should their income not allow them to meet their specific financial goals.

Results also suggested that the majority of the respondents discussed financial matters with their spouse and shared the financial decision making with the spouse. Exclusion of the non-respondents and unmarried individuals yielded a sample of 350. Of these, 53.7% reported that they often discussed financial matters with their spouses. Of the approximately three-quarters of the total sample (75.1%, N=346) for whom the question was applicable, 72.8% reported that "both spouses jointly make most financial decisions."

Management theory suggests that these input and throughput behaviors are representative of some of the principles which would underly the development and implementation of a comprehensive financial plan. Results of this research suggest that the majority of the respondents were demonstrating behaviors congruent with the critical financial management competencies. However, this behavior did not afford them financial security as most had financial worries.

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The great majority of the respondents (85.6%) expressed some degree of satisfaction with present standard of living, yet over three-quarters (76.6%) expressed some level of worry about the amount of money they had available. Two-thirds of the group (67.5%) worried about being overextended or using too much credit. These factors were considered as measures of output of the household financial management system.

These research findings suggest several implications for theory development, research, and teaching:

- Efforts should continue to merge the theoretical orientations of resource management theory and financial management behavior. Some studies [4, 5] have successfully utilized such a perspective and contributed to the body of knowledge.
- Research on financial management behavior should continue as a documentation of actual behavior as well as an exploration of the application of sound management principles. Such a dual perspective would strengthen research in both fields and contribute to a more comprehensive theoretical framework.
- Individuals and families, even those with relatively high incomes and levels of education as demonstrated in this research, continue to need financial management education which will promote consumer sovereignty.

Analysis of the relationships among the variables considered in this research is continuing. Data analysis is presently underway involving these variables as well as other variables measuring stress and associated coping mechanisms.

REFERENCES

1. Deacon, R. E., & Firebaugh, F. M. Home Management Context and Concepts. Geneva, IL: Houghton Mifflin, 1975.
2. Deacon, R. E., & Firebaugh, F. M. Family Resource Management Principles and Applications. Boston, MA: Allyn and Bacon, Inc., 1981.
3. Mueller, M. J. "A Managerial Systems Approach to Money Management Practices Influencing Household Solvency Status." Unpublished master's thesis, Iowa State University, 1983.
4. Swift, A. V. N. "A Systems Approach to Communication Patterns Influencing Household Solvency Status." Unpublished master's thesis, Iowa State University, 1985.
5. White, L. B. "Criteria for Assessing Adult Financial Management Competency Needs, A Delphi Study." Unpublished doctoral dissertation, Texas A & M University, 1985.

THE INCIDENCE, CHARACTERISTICS AND TYPES OF HOME-BASED EMPLOYMENT

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INTRODUCTION AND PURPOSE

Technological changes are continually impacting the lives of consumers, both in the marketplace and the workplace. Technology, such as computers, has allowed expansion, efficiency and speed in marketplace transactions. Technology has also affected the workplace. For example telecommuting, working at home using the computer, is reportedly on the rise. The location of one's employment may be moved into the home for other reasons relating to economic factors and family responsibilities. The Department of Labor has only recently counted the extent of home-based work, and little is known about this type of employment. The purpose of this research analysis was to investigate further the incidence and types of home-based employment.

METHODOLOGY AND DATA

The sample utilized in these analyses was a subgroup of employed (or looking for work) men and women drawn from the 1984 Panel Study of Income Dynamics. Descriptive statistics, including percentages and means, were used to examine the numbers and selected socioeconomic characteristics of the individuals involved in home-based work. Home-based work was defined to be those employment situations in which the worker did not travel to his or her place of employment or the amount of travel varied. Occupational and industry groups were also examined in detail. The data were weighted to represent the national population.

FINDINGS

The total number of employed (or looking for work) individuals from the 1984 sample equaled 7,220 cases. Approximately 6.1% (weighted) of these workers located their employment in the home. This percentage is comparable to a recent survey conducted by the Department of Labor. With the exception of farmers, the occupational groups most frequently involved in a home-based workplace were: managers and administrators; service workers; and professional and technical workers. Specific occupational classifications which consisted of the largest numbers of home-based workers were varied and included many traditional occupations or jobs such as accountants, clergymen, lawyers, psychologists, editors and reporters. Counts by industry showed that home-based workers were most often classified in the following industries: agriculture and related industries; wholesale and retail trade; and professional and public administration.

An analyses of selected socioeconomic characteristics showed that significantly more men than women were involved in home-based work as defined by this study. Minorities were under-represented in the group of home-based workers. Home-based workers were more likely to be young, between 25 to 44 years of age and members of small households with no young children. The educational level of most home-based workers was the completion of high school. Home-based workers were more likely to work a full-time equivalent of 35 hours or more per week, and their mean labor income was $12,142 in 1983 dollars. Home-based workers who were non-farm were most likely to live in communities of 50,000 population or less, and were fairly equally distributed among the regions of the country.

This preliminary and descriptive analysis of home-based workers demonstrates the contributions made by these workers to the overall numbers in the labor force. Further study is needed to analyze additional factors which are associated with this type of work effort.

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SURVEY AND STATISTICS MICROCOMPUTER SOFTWARE FOR CONSUMER AFFAIRS/EDUCATION TEACHING AND RESEARCH

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ABSTRACT

Survey data and statistical analysis techniques are vital aspects of many phases of teaching and research in the areas of consumer affairs and consumer education. With hundreds of microcomputer software packages available in these areas, the tasks of identifying, evaluating, and implementing appropriate ones can be overwhelming. As with other instructional aids, a systematic selection approach for survey research and statistics software is needed.

RESEARCH OBJECTIVES

The goals of this study were to: (1) identify and obtain information regarding microcomputer survey programs and statistical analysis software; (2) develop a framework for the evaluation of survey research and statistics software; (3) evaluate selected microcomputer software for appropriateness in teaching and research situations; and (4) recommend implementation techniques and instructional strategies for selected survey research and statistics software.

RESEARCH PROCEDURES

The methodology used in this study consisted of the following steps: (1) identification of survey research and statistical analysis software; (2) requests for information and sample or demonstration disks for software identified as having potential use in consumer affairs and consumer education teaching and research; (3) creation of a criteria for the evaluation of survey research and statistics software; and (4) development of suggestions to implement survey research and statistics programs in teaching situations.

SOURCES OF SOFTWARE INFORMATION

The information sources used to identify the microcomputer programs for this study involved the following:

- the "Software for Marketing and Marketing Research" directories in the Marketing News (see March 27, 1987 issue, pages 13-32)
- advertisements and "marketplace" listing in computer periodicals such as PC and PC World
- the book review section of the Journal of Marketing Research
- promotional brochures, catalogs, conference exhibits, and journal advertisements of textbook and software publishers.

EVALUATION FRAMEWORK

The factors that are recommended for consideration when assessing the suitability of software include:

- equipment type and requirements
- availability of a sample or demonstration disk
- ease of operation (data entry; menu vs. command)
- adaptability to teaching and research situations
- handling of survey data and statistical needs
- usefulness of documentation and manuals
- printing capabilities
- cost (site licensing vs. individual disk price)

FINDINGS

The software identified in this study were grouped into four categories:

1. Survey research programs are designed to define variables, enter data, and tabulate results. Each allows the creation of frequency distributions and most also develop cross-tabulations. Many of the programs have statistical analysis capabilities.
2. Instructional software for statistics have the main purpose of teaching students to use descriptive and inferential statistical analysis techniques. These packages have a detailed student manual with sample problems or a separate data disk.
3. Low-cost statistics programs are inexpensive packages available to process data for class assignments and research projects.
4. Advanced statistical analysis packages are capable of both basic and multivariate analysis. These programs include PC-versions of mainframe software.

(NOTE: A detailed list of available software may be obtained from the author, Dept. of Economics and Business, Lake Forest College, Lake Forest, IL 60045.)

CLASSROOM APPLICATIONS

Survey research and statistics software can be used in the instructional process in the following manners:

- creation of survey instruments, data collection, and tabulating descriptive statistics
- development of a basic awareness and use of statistical analysis techniques
- analysis of student-collected or previously published data
- implementation of a research project from problem identification to data analysis.

SELECTED REFERENCE

Shiffler, Ronald E. "A Personal Agenda for Evaluating Software for Business Statistics Courses." Journal of Education for Business, February, 1986, pp. 197-201.

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TIME USE OF SOMALI WOMEN FARMERS

Molly Longstreth, University of Arizona[1]

Somalia is one of the poorest countries in the world. Its two major industries, agriculture and livestock production, are primarily for subsistence. This study took place in Somalia's major dryland farming area, the Bay Region. In the Bay Region agricultural technology is limited to hoes and knives and is thus labor intensive. Empirical research on Somali farmers is scarce but indicates that women contribute significantly to agricultural production although the extent of women's participation and the constraints to it are unknown [1]. The purpose of this paper is to describe contributions of women of the Bay Region to agriculture and to explore the determinants of their time use.

METHOD

The data were collected in eleven villages surrounding Baidoa, Somalia, the largest city in the Bay Region, during the summer of 1986 in conjunction with the Bay Region Agricultural Development Project.[2] Sample members were selected both purposively and conveniently. To maximize the research effort the time use study built on work done by Massey et al. [1] by using women from their survey as sample members. When a target member was unavailable another household was selected. The sample contained 23 households composed of 29 women and 21 men.

The data were collected during the country's longer rainy and primary agricultural season. Weeding and harvesting activities were encompassed. Time use was observed directly for 2 days per case. Data were analyzed with descriptive statistics and multiple analysis of variance.

RESULTS

Seventy-two percent of the women were married; 28 percent were heads of households. Thirteen percent of the women had attended village Koranic schools for at least some time but none was literate. The level of women's education compared unfavorably with the men's as 84 percent of the men had attended Koranic school and more than 20 percent had attended a country-wide 6-week literacy course.

Allocation of the women's time is reported in Table 1. Most of the directly productive part of the day was spent in household production while half as much time was allotted to agricultural work. Manufacturing activities consumed a half hour per day. Sleeping, eating and other personal maintenance activities as well as recreation consumed the rest of the day. In sum, the women spent approximately 11 hours per day in all types of directly productive activities.

Most of the time in agricultural production was expended on major crop production. Only two households had gardens and these were very small. The other major agricultural task was animal husbandry, primarily milking.

Table 1. Time Allocation of Women Farmers

Activity	Minutes per Day	
	Mean	Standard Deviation
Aricultural work	205.23	248.05
Household work	416.05	149.38
Home manufacturing	33.90	92.77
Recreation	98.57	71.27
Personal Maintenace	677.79	140.49

Food preparation consumed more time than any other home production activity, approximately 4 hours per day. Child care was the second largest use of time. About 1 hour per day was allocated to child care, primarily physical care.

The results of the multivariate analysis of variance indicate that married women spent less time in agricultural production than unmarried women. Good health increased time in farming as did the presence of a well in the village.

The results of the multivariate analysis of variance indicate that married women spent less time in agricultural production than unmarried women. Good health increased time in farming as did the presence of a well in the village. Time in agricultural production decreased as children aged. Contrary to predictions regarding the impact of wealth on the supply of labor, agricultural production increased with number of camels owned. This may mean that a source of wealth to husbands isn't necessarily one for wives. Women have little access to the cash generated from sales of animals.

Time in household production was greater for married than unmarried women and increased if either spouse reported at least intermittently earning money by having a job or owning a teashop. Unexpectedly, time in household work declined with number of children. Furthermore, time men spent in farming was inversely related to time women used for household work.

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[2] The project was funded by U.S.A.I.D., the consortium for International Development and Women in Development

In conclusion, these data indicate that women make significant contributions to farming in the Bay Region of Somalia. However, much more time is spent in household than agricultural production. Thus improvements in the efficiency of food production and other household production tasks would enable women to spend more time on agricultural work. Improvements in household technology might be as likely as those in agricultural technology to increase women's time and efficiency in agricultural production.

REFERENCES

1. Massey, G., Nyhus, S. M., Glascock, A. P., Glascock, J. S., Merryman, J. L., Merryman, N. H. Socioeconomic Baseline Study of the Bay Region Volumes I and II, Laramie, WY: University of Wyoming, 1984.

PROFILE OF TYPICAL NONBUSINESS BANKRUPTCY PETITIONS FILED IN TEXAS FROM 1966 THROUGH 1984

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PURPOSE

The purpose of the study was to investigate nonbusiness bankruptcy petitions closed in Texas during the years 1966 through 1984 to determine the characteristics of individuals in Texas who filed for bankruptcy during these years. Specific information gained included: occupation, employment status, income, record keeping, prior bankruptcy, amount owed to creditors, secured debts, unsecured debts, volume of assets, mobility, age, sex, education, and marital status.

METHODS AND PROCEDURES

Sample Selection

The sample was drawn from the cities in each of the four federal judicial districts in Texas in which bankruptcy judges reside. This included the cities of Fort Worth, Dallas, Lubbock, Tyler, Houston, and San Antonio. A random number table was utilized to draw the sample.

Instrument

A Response Analysis Form was designed to record information from the bankruptcy petitions utilizing the format of the bankruptcy petitions. Bankruptcy petitions have three general categories: 1) Statement of Affairs; 2) Schedule A--Statement of All Debts of the Bankrupt; and 3) Schedule B--Statement of All Property of the Bankrupt. The Statement of Affairs included information as to name, residence, occupation, income, bank and savings accounts, identification of property transferred to others or held for others, legal action against the petitioners, and payments to attorneys.

On Schedule A, liabilities were classified according to three types: 1) debts having priority, 2) secured debts, and 3) unsecured debts without priority. Personal Property from Schedule B was divided into three broad categories. After the value of household goods was deducted, the remainder was divided into liquid and non-liquid assets.

The Reponse Analysis Forms consisted of three basic parts. The first part included 1) general information found in the Statement of Affairs, 2) payments to attorneys, 3) number of creditors owed and 4) the total amount of debts to creditors having priority. Part two categorized the debts of the bankrupt into seventeen different categories. The final section summarized all debts and assets of the bankrupt.

Since the study covers an inflationary period, all money figures in the findings were transposed to 1984 values. All figures were rounded off to the nearest dollar.

RESULTS

1. Nonbusiness bankruptcy petitions were most often filed by either married couples (46.8%) or males (35.5%).
2. The bankruptcy petitioners usually did not keep financial records.
3. The mobility rate of the sample was quite high (84% had moved in the last 6 years).
4. The majority of the bankrupts held white-collar jobs (46.7%). Ninety percent of the debtors were employed at the time the bankruptcy petition was filed.
5. The median income of the bankrupt was $18,509 and was derived primarily from occupation.
6. In 90% of the cases, the petition examined was the first bankruptcy filing for the petitioners.
7. A petition was most likely to be filed in the months of February, May or September.
8. The average amount of unsecured debts totaled $52,620 and secured debts equaled $34,931. However, there were an average of 22 unsecured debts as compared to an average of 4 secured debts.
9. The average number of debts per debtor was 29.
10. The average bankrupt owed four times his average salary. The largest debts owed by the petitioners were to banks ($15,422) and individuals ($14,418).

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THE ECONOMIC DETERMINANTS OF DIVORCE: ANALYSIS OF CROSS SECTIONAL DATA

Gong Soog Hong and Yan Wang, Cornell University[1]

ABSTRACT

The rising incidence of marital dissolution has been a long standing social concern. This study investigated the economic factors affecting men's and women's decision-making on divorce using logit analysis. The findings of this study showed that the wage rate, child support, public assistance, and other income have positive effects on the probability of divorce for women, whereas different effects are found for men.

The incidence of divorce in the U.S. remains among the highest in the world. This study examines the economic aspect of divorce. As the rate of female labor force participation rises, more women become financially secure. How will this trend affect the probability of divorce? The impacts of changes in women's labor market potential and other income including child support and alimony on the probability of divorce are the focus of this research.

THEORETICAL FRAMEWORK

The framework of this study is developed on the basis of Becker's economic theory of marriage and household production theory. In addition, emotional goods and activities along with home produced physical goods are considered as the goods from which an individual derives utility. In this study, emotional goods are defined as marriage and marriage-related activities. It is assumed that emotional goods are produced with purchased goods and leisure time shared with other family members, conditioned on the given marriage specific capital such as the number of children and duration of marriage, and other demographic characteristics.

Assuming that each individual maximizes his/her utility from physical goods G, emotional goods E, subject to the production functions of G and E, the time constraint and budget constraint, one can derive indirect utility functions for divorce, Vd(Px, W, V;MC, D), and for remaining married, Vm(Px, W, V;MC, D), where Px is the price of purchased goods, W is the reservation wage rate, V is unearned income, MC is the marriage specific capital, and D is a vector of demographic characteristics. Then, an index function can be defined as follows:
$I = Vd(Px, W, V; MC,D)-Vm(Px, W, V; MC,D)$.
However, this index function is not observable. What one observes is,

$\text{Divorce} = 1$ if $I >= 0$; and
$\text{Divorce} = 0$ if $I < 0$.

In other words, people will choose to divorce only if the indirect utility from divorce is greater than that of remaining married. Thus, $\text{Prob(div)} = \text{Prob}(I >= 0) = f(Px, W, V; MC,D)$. This is the estimated equation for this study.

DATA AND METHODS

The sample is drawn from the Current Population Survey conducted in March/April 1982 by Bureau of the Census. The subsample consists of 815 individuals 18 years old or over. 427 of them are married individuals, and 388 are divorced or separated.

Instrumental variables are used to correct the simultaneity problem which arises because the amount of child support and alimony are simultaneously determined with the decision to divorce. The same technique is used to correct the selectivity bias which would be caused by using the wage rate as the opportunity cost of time. Binomial logit analysis, a maximum likelihood technique, is used to estimate two equations for men and women at the final stage of the data analysis.

RESULTS

The findings of this study showed that the reservation wage rate, expected child support, public assistance, and other income have positive effects on the probability of divorce for women, whereas the marriage specific capital such as the duration of marriage and number of children have negative effects. Age is found to be negatively related to the probability of marital dissolution for both men and women. The total impact of education is ambiguous due to high correlation with wage rate. Finally, men who have higher wage rates are found to be less likely to divorce than those who have lower wage rate. Most findings are consistent with the theoretic framework of this study.

REFERENCES

1. Becker, G.S., "A Theory of Marriage," in Schultz, Economics of the Family, pp.299-344.
2. Becker, G., E. Landes, and R. Michael. "An Economic Analysis of Marital Instability." Journal of Political Economy, 85(6):1141-87.
3. Santos, F. P. "The Economics of Marital Status," in Lloyd(ed), Sex, Discrimination, and Division of Labor, pp. 244-68.

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THE USE OF EXTERNAL DATA TO PROXY ECONOMIC CHANGE: AN APPLICATION TO MORTGAGE DEFAULT

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ABSTRACT

A review of econometric work on default behavior revealed that previous research exclusively used independent variables measured at the time of purchase to explain default behavior. Undoubtedly, from the viewpoint of the lender, such research is necessary to determine the factors affecting default before the loan is granted. However, the value of these independent factors may change over time. The risk of changes in incomes, housing prices, family composition, and, in an adjustable rate mortgage market, mortgage payments, is borne by the consumer. Scant attention has been given to those factors affecting the consumer's decision at the time of default. The inter-temporal aspects of housing need to be accounted for when modeling mortgage default. Thus, the first objective of this research was:

1) To determine the contribution of external data used to depict the factors affecting consumer choice at the time of the default decision.

Secondly, most research has modeled default as a function of loan-to-house value ratio and payment-to-income ratio rather than examining the effects of the component variables individually. If there are differences in default which vary by levels of income or wealth (housing equity) these differences may be concealed in the ratio results. Thus, the second objective was:

2) To compare the ratio and linear-additive specification in modeling mortgage default.

THE DATA

One hundred and sixty-four mortgage loans which became severely delinquent between January 1979 and December 1982 comprised the sample. All loans ended as a lender repossession (n=135) or as a total borrower repayment of principal (n=29). The population sampled were those loans adjudicated by the Hamilton and Toronto, Ontario, Canada offices of a large Canadian lender.

Data were collected from the initial loan application and loan approval form and from any subsequent applications or documents recorded at a later date. The information obtained from lender records of individual mortgage repayment histories allowed the recording of financial variables at several points in time. All dollar values were adjusted by the Canadian CPI with the shelter component removed to express the values in June 1981 Canadian dollars.

Data Justification

Canadian borrowers must use a Canadian roll-over mortgage, a variant of the adjustable rate mortgage, if they desire to mortgage finance the purchase of their principal residence. This will eliminate some selectivity bias in the results. Also, the Canadian economy, not unlike the American economy, was extremely volatile during this period with mortgage interest rates ranging from 11.05% to 21.46%. Also, house prices fluctuated with prices rising sharply in early 1978 and late 1980 through early 1981 but declined sharply during late 1978, early 1979, and through 1982. In addition, Hamilton and Toronto were very different economies during the period of interest with Hamilton's industrial, steel-based economy experiencing a recession and Toronto's economy experiencing a boom. These differences add variability to the sample.

Conclusion to Objective 1

The test of the null hypothesis that time of delinquency data is statistically insignificant when modeling default behavior was rejected in tests with both the ratio and linearly-additive specifications at the .005 level. Therefore, the available secondary data used to "update" variables to the time of the consumer action was important to the predictive power of the logit equation.

Conclusion to Objective 2

Ratio specifications indicated that higher payment-to-income ratios increased default probabilities. However, linearly-additive specifications indicated that default was negatively affected by higher incomes while holding mortgage payments constant. Additionally, mortgage payments were found to be non-significant in these linearly-additive specifications. The implication is that the significance of the payment-to-income variables is due to the income component and not the payment component. It was concluded that researchers should not rely on the ratio specification due to historical precedent; rather, they should choose a specification based on the purpose of their study.

With repsect to the consumer, these results indicate the importance of economic events following loan initiation on the ability of the mortgagor to meet contractual commitments. For this sample, the greatest risks of default were associated with lesser income and equity at the time of purchase as well as with changes in these same variables through time. These risks need to be understood by borrowers and the results suggest that those in occupations with variable incomes or in inflation sensitive industries face the risk of mortgagor non-performance. This is in addition to housing equity factors known at purchase.

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DETERMINANTS OF THE CONSUMER'S SEARCH FOR INFORMATION

Jung Sung Yeo, Cornell University[1]

ABSTRACT

The purpose of this study is to examine the factors affecting the consumer's search for information and the relationship between the amount of search and the final price paid. The model indicates the demand function for search is affected by the market price of each durable good purchased, the time available for search, family income, direct cost of search, the initial stock of information, effectiveness of search, and shopping attitudes. The final price savings are a function of search, price dispersion in the market, the initial stock of information, and effectiveness of search.

INTRODUCTION

Statement of Purpose

As environments have become more complicated, consumers have achieved both the opportunity to choose and the concomitant burden of decision making. New information becomes the basic and essential ingredient of decision making. At the same time, the variety of available prices and the quality of products dramatically increases the time and effort necessary to gather information. Thus, the search for information becomes a more important part of the decision process for many consumers who are considering a purchase. The great majority of Americans feel that they are better informed shoppers than they used to be, and support increased government requirements that manufacturers provide consumers with more information.[2]

Comprehensive theories of consumer decision processes recognize the importance of searching for information and incorporating it as a construct in models of decision processes. Various mixtures of economic and psychological factors have shown up in many studies of consumer search behavior.

There are two general classes of literature about the consumer's search for information. Economists typically emphasize probabilistic model building and the impact of alternative specifications on what might be observed in different markets, often with relatively little testing of these predictions. On the other hand, the marketing literature on search tends to look for empirical relationships with relatively little theoretical work. Even within the marketing literature, two general types of research designs are found. Some researchers have gathered data from field studies while others have conducted laboratory studies.

Yet little is known about why we observe different amounts of search among consumers and how these varying amounts influence or are influenced by other salient decision constructs.

The objectives of this study are:
1. to develop an economic model of the relevant factors affecting the consumer's search for information and estimate the size and direction of the effects of those factors,
2. to estimate the relationship between the amount of search and the price paid for purchased goods, and
3. to formulate implications for consumer policy that will augment the benefit to consumers engaging in search.

Review of Literature

This research reviews the related literature of consumer behavior concerning the consumer's search for information. From the literature review, the following results are found. First, the definitions and measures of information search differ slightly according to the purpose of the research (Stigler 1961; Nelson 1970; Maynes 1976; and Engel and Blackwell 1982). Some researchers have developed their own measures (Katona and Muller 1954; Bucklin 1966; Udell 1966; Dommermuth and Cundiff 1967; Bennett and Mandell 1969; Newman and Staelin 1971, 1972; Claxton, Fry, and Portis 1974; Newman and Lockeman 1975; Alcaly 1976; Goldman and Johansson 1978; and Punj and Staelin 1983). Second, broadly speaking, three kinds of main information sources have been identified; advertising, interpersonal communication, and shopping (Bucklin 1965; Udell 1966; Britt 1967; Newman and Lockeman 1972; Ferber 1973; Maynes 1976; and Engel and Blackwell 1982). Each of them is used differently with respect to the kinds of product to be purchased, personal characteristics, and information content. Third, income, price dispersion, expenditure, and the level of education are found to have a significant positive relationship with the amount of information search (Katona and Muller 1954; Bennett and Mandell 1969; Bucklin 1969; Alcaly 1976; Marvel 1976; Maynes and Assum 1982; Carlson and Gieseke 1983; Hall 1983; and Zimmermann and Geistfeld 1984).

THEORETICAL MODEL

According to Neoclassical consumer demand theory, a consumer is confronted with the task of maximizing his utility in consuming goods and leisure subject to budget and time constraints.

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[2] The 1983 Whirlpool Report shows that more than 70% of respondents feel this way (America's Search for Quality 1983).

That is, utility maximization is a constrained optimization problem for consumers.

Now, suppose there is price dispersion in the market for durable goods. In order to discover what prices are being charged for a particular good, a consumer needs to search. Since it is costly to discover the lowest price, we might expect to see different prices paid by consumers. Suppose the available prices of durable goods depend on the amount of search undertaken, and consumers use a predetermined search procedure.[3] Information search takes money and time; the consumer sacrifices leisure time for search time, with work time held constant. Labor income, as well as non-labor income, is fixed in the short run. Differences in effectiveness of search and in initial stock of information can give different results on the savings from search and thus on both the optimal amount of information search and the final price paid.

Incorporating these assumptions in the above model yields the following maximization problem.

Maximize $U = U(q_o, q_d, L)$ (1)
subject to
$P_o q_o + [P_d - R(S)]q_d + DC_d S = I$ (2)
$I = wM + V$ (3)
$T = L + M + S$ (4)
$R = R(S; \text{DISPER}, \text{INISTOCK}, \text{EFFSRCH})$ (5)

where
U = the amount of satisfaction gained from (q_o, q_d, L)
q_o = the quantity of all other goods
q_d = the quantity of durable goods
P_o = the per unit price of all other goods
P_d = the per unit price of durable goods
I = the family income
w = the wage rate per hour
T = total available hours
M = the total hours of market work
L = the hours of leisure
V = non-wage income
S = the time spent for search
DC_d = the direct cost per unit of search for information on durable goods prices
P_d = the average market price
R = the price saving from search
DISPER = the price dispersion of a durable good in the market
INISTOCK = initial stock of information
EFFSRCH = effectiveness of search

The final income constraint is:

$$P_O q_O + [P_d - R(S)]\, q_d + DC_d S = wM + V \qquad (6)$$

Information search can influence the consumer's budget[4] in two ways. First, the consumer has to use some of his income for the direct cost of information search. This direct cost will produce the same kind of result as the reduction of income. Suppose income is reduced and durable goods are normal goods. If the good is normal, the income effect is positive. Thus, if the search activity decreases income, the quantity of durable goods demanded will decrease.

Second, search will reduce the unit expenditure on durable goods since the consumer can find a lower price through information search. The effect on goods purchased of finding a lower price is classified into two categories: the income and the substitution effect. A lower price alone would always induce the consumer to increase his purchase of durable goods (the Slutsky theorem). Also, a lower price affects the purchases of both commodities in another way, by increasing the purchasing power of the consumer's income.

The Lagrangian function for this maximization problem is:

$$G = U(q_O, q_d, L) + \lambda[\, I - P_O q_O - P_d q_d + R(S)q - DC_d S \,] \qquad (7)$$

where $L = T - M - S$
λ = Lagrangian multiplier

The first-order conditions for utility maximization are obtained by taking the first partial derivatives of Lagrangian function with respect to the choice variables, S, Q_O, q_d, and λ. The solution differs from the usual results. The marginal benefits from search are equated to the marginal cost, which are in terms of the cost of time used to search, $\partial U/\partial L$ divided by the marginal utility of money and direct cost per unit of search.

$$(\partial U/\partial L)/i + DC_d = q_d \partial R(S)/\partial S \qquad (8)$$

Before consumers start to search, they don't know the final price they will pay or the exact savings. The factor that affects their search is not the final price they will find but the expected benefit, which they can anticipate before search.

The cost of search consists of the opportunity cost of time involved and direct cost of information gathering such as transportation cost. Usually, the opportunity cost of time is represented by the wage rate. In this study, it is assumed that time worked in the labor market is fixed regardless of search activity, and that consumers have to use leisure time for search. Thus, the opportunity cost of search time can be represented by the utility reduction through search weighted by the marginal utility of money, $(-\partial U/\partial L)/\lambda = (\partial U/\partial S)/\lambda$. Thus, the opportunity cost per unit of search on durable goods is perceived differently according to the level of total family income. This cost may lower the marginal costs of search for richer consumers relative to those for poorer consumers (Alcaly 1976).

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[3] Refer to Stiger (1961) for a discussion of the 'predetermined search' and 'sequential search' models. In predetermined search, the consumer decides the level of optimal search comparing the expected benefits and costs of search, prior to actually implementing his search. On the other hand, in sequential search, the search decision depends on prices previously obtained.

[4] Lancaster (1966) developed a new theory of demand to analyze the effect of information on consumer behavior. He suggested that new information would change the preference of consumers. But, in this study, the new information is confined to affect only on consumer's budget constraint.

Suppose the quantity of durable goods to be purchased has already been decided.[5] With $q_d = q_d$, the consumer now makes consumption decisions about other goods, search, and leisure, and q_d becomes a preference shifting variable. Thus, the demand for other goods, conditioned on the demanded quantity of the durable good, depends on discretionary income, not total family income, on the price of other goods but not the price of durable goods. The demand for search is conditioned on the quantity of the durable good to be purchased.

With this assumption, the effect of finding a lower price is quite different. Since the quantity of durable goods purchased is fixed, the consumer does not alter the amount of the durable good as the price of the durable good changes. Thus, there is no substitution effect between two goods when the consumer finds a lower price. Indeed, finding a lower price affects the consumer's decision about the demand for other goods by altering the family's discretionary income, $I - p_d q_d$.

In conclusion, the theoretical model can properly express the relationship between the endogenous variables, the amount of information search and the final saving, and exogenous determinants:

$$S = s\,(\,p_d,\ T\text{-}M,\ I,\ DC_d,\ INISTOCK,\ EFFSRCH,\ SHOP\ ;\ q_d\,) \tag{9}$$

$$R = f\,(\,S\ ;\ DISP,\ INISTOCK,\ EFFSRCH\,) \tag{10}$$

where
S = amount of information search
q_d = the quantity of durable goods
p_d = the average market price
T-M = the available time for search
I = the family income
DC_d = the direct cost per unit of search for information on durable goods prices
INISTOCK = initial stock of information
EFFSRCH = effectiveness of search
SHOP = shopping behavior
R = the price savings from search

The first equation, the demand for information search, will provide the measure of the effect of each variable on the amount of information gathered. In the second equation, the marginal productivity of search will be derived.

DATA AND EMPIRICAL MODEL

Data and Study Sample

Data from the Panel Study on Consumer Decisions and Asset Management conducted by the Survey Research Laboratory at the University of Illinois were used for the empirical testing. The analysis for this research used data collected from 1973 to 1975 and from 1977 to 1979 from both the Chicago and Peoria/Decatur samples. The One hundred and thirty-five married couples who had purchased a new household appliance during 1974 or 1977 were selected as the final sample.

Dependent Variables

The amount of information search as the dependent variable is represented by two different measures, the level of discussion with others and the number of stores visited. The data base utilized in this study specifically asked the consumers a series of questions about their sources of information in relation to their recent purchases:
"With whom did you discuss when to buy?"
"With whom did you discuss how much to spend?"
"With whom did you discuss where to buy?"
"With whom did you discuss what brand to buy?"
"How many dealers did you see before buying the items?"

The first four questions were answered in the following categories: 1) each other(spouse); 2) wife's relatives; 3) husband's relatives; 4) friends or neighbors; 5) sales people; 6) friends at work; and, 7) other. The last question was answered by the number of dealers consulted by the consumer. Responses to the first four questions are added linearly to indicate the amount of interpersonal information search by each consumer. And the number of stores visited is used to represent the degree of shopping.

Composite Indices for Shopping Attitudes

To construct the index for shopping attitudes, factor analysis was applied to twenty-two questions about shopping behavior.[6] Table I shows the name and content of each variable. Five kinds of shopping attitudes were distinguished by this analysis: desire to search, degree of experimenting, degree of comparison shopping, the perception of price-quality relationship, and brand loyalty. To create a separate index of each factor revealed by factor analysis, the relevant items which load highly on each factor are linearly added.

Other Variables

The information about the average market price of each product was taken from The Buying Guide Issue of Consumer Reports (1974 and 1977). The

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[5] This section applies the theory of conditional demand function by W. K. Bryant (1983) and R. A. Pollack (1971).

[6] Since the objective is to define the dimensions of common vector space, Principal Factor Analysis is used for factor extraction, and the method of rotation used is Varimax.

Table 1. VARIABLES FOR CONSTRUCTING FACTORS

Factors	Variables	Factor loading
DESIRE TO SEARCH	New products don't interest me very much.	0.63727
	I seldom try anything new.	0.73246
	I always look for the best value for my money.	0.70417
	I hate to buy something and then find out that it is cheaper elsewhere.	0.77566
	It pays to read the weights on cans and package.	0.79745
EXPERIMENTING	I would rather wait for somebody else to try something than to try it myself.	0.58282
	I am a bit nervous about using anything try I haven't used before.	0.61262
	You're never quite confident when you use something new.	0.53683
	I prefer the old established brand.	0.53295
	I only buy new things if I have heard about them first.	0.47467
	I go for the things I know and have tried rather than things I don't know.	0.57246
COMPARISON SHOPPING	I compare all prices before I decide where to shop.	0.69557
	I am not one of those people who goes around comparing prices.	0.21304
	I try to watch every penny.	0.56791
	I always look around for bargains.	0.61691
PRICE-QUALITY	More expensive brand also taste better.	0.55439
	Cheaper goods are usually poorer quality.	0.55144
	The best brands are rarely reduced.	0.48911
	You always have to pay a bit more for the best.	0.50240
BRAND LOYALTY	I am always on the lookout for anything new in the stores.	0.46104
	I suppose I do a fair amount of experimenting with new products.	0.64750
	I enjoy trying new products.	0.66142

Buying Guide Issue, which is published annually, provides up-to-date prices on many hundreds of brands and models as well as brand and model ratings and general buying guidance. The final saving is defined as the difference between the average market price and actual price the consumer pays. It is calculated by the price information from the Buying Guide and the actual price reported by each consumer.

Time available for search is measured by some variables about the status of employment. Five different categories of ordinal scaling measure employment status: (1) no work, (2) part time only, (3) part time and second job, (4) full time only, and (5) full time and second job. The level of family income is measured by a variable with nine categories from under $7,999 to $52,000 or more. This represents total family income from all sources before taxes or any other deductions. The number of children in a household, which did not appear in the theoretical model, is included in this empirical specification. The justification for including this variable is that it can influence the effectiveness of search or the available time for search.

Level of education is usually assumed to represent ability and interest in searching and evaluating information. Buying experience, which suggests knowledge of retailers, products, and the purchase process, can have a substantial influence on search. This variable can be expressed by the total number of durable goods owned. The above two variables are usually used as the proxy for 'effectiveness of search' or 'initial stock of information.' These variables could affect search and their effects can be explained as the possible indicator of effectiveness of search or initial stock of information.

Finally, two variables from the theoretical model remain, the measure of direct cost of search per unit and price dispersion. There are no specific measures of these variables. However, their exclusion from the empirical model can be justified. First, since all the respondents lived in one area, it can be said that the direct cost of search per unit is the same for every family; that is, it is assumed that the distance between the shopping area and the home is the same for every family. Second, in the search model, since price dispersion and average market price are highly correlated, the effect of price dispersion could be captured by the inclusion of average market price. In the saving model, even though price dispersion is the relevant variable which has to be included, the omission of this variable will not make the estimated coefficients of included variables biased, because the correlations between price dispersion and the other variables are not high.

Model Specification

Using the theoretical model and the measurement of observed variables from the previous section, the empirical specification is as follows:

IS1 = s (AVGPRICE, HUSTIME, WIFTIME, FAMINC,
TOTDURA, HUSEDU, WIFEDU, CHILD, H1,
H2, H3, H4, H5, W1, W2, W3, W4, W5)

IS2 = s (AVGPRICE, HUSTIME, WIFTIME, FAMINC,
TOTDURA, HUSTEDU, WIFEDU, CHILD, H1,
H2, H3, H4, H5, W1, W2, W3, W4, W5)

SAVE = f (IS1, IS2, HUSEDU, WIFEDU, TOTDURA)

where

IS1 = total number of discussions about purchase
IS2 = total number of visits to shop
SAVING = the expenditure saving by search
AVGPRICE = the average price of each product in the market
HUSTIME = the available time of husband for search
WIFTIME = the available time of wife for search
FAMINC = the level of family income
HUSEDU = the level of education of husband
WIFEDU = the level of education of wife
TOTDURA = total number of durable goods owned in home
CHILD = the number of children in family
H1 = husband's desire to search
H2 = husband's degree of experimenting
H3 = husband's degree of comparison shopping
H4 = husband's perception of price-quality relation
H5 = husband's brand loyalty
W1 = wife's desire to search
W2 = wife's degree of experimenting
W3 = wife's degree of comparison shopping
W4 = wife's perception of price-quality relation
W5 = wife's brand loyalty

ESTIMATION AND RESULTS

Statistical model and Estimation

There are three issues of concern for the statistical estimation. First, the distribution of the number of discussions (=IS1) is highly skewed, so the original set of categories had to be recoded. The actual score of this variable is categorized into seven ordinal scales to make the variable normally distributed.

Secondly, the potential problem of multicollinearity was considered. From the correlation coefficient matrix, it is found that the level of husband's education is highly correlated with wife's education level (ρ=0.480).
To solve this problem, EDUC is created by adding the level of education of spouses together. Since the information search in this study is conducted by both wife and husband together, the use of EDUC can be justified to represent the level of education of the searchers.

Third, the available time the wife has for search may depend on the number of children in the family as well as on market work. That is, the variable which will affect search is not time

TABLE II. REGRESSION ANALYSIS OF INFORMATION SEARCH

	MODEL I (DEP=IS1)		MODEL II (DEP=IS2)	
INDEPENDENT VARIABLE	PARAMETER ESTIMATES	T-VALUE	PARAMETER ESTIMATES	T-VALUE
INTERCEPT	2.2754	1.044	-1.3406	-0.555
AVGPRICE	-0.0008	-0.867	0.0037	3.411*
HUSTIME	0.1733	0.856	0.2023	0.900
CWIFTIM**	-0.0106	-0.081	0.1392	0.958
FAMINC	0.1519	1.178	0.4936	3.449*
TOTDURA	0.0332	0.397	-0.1047	-1.125
EDUC	0.0145	0.242	-0.0217	-0.327
CHILD	0.0953	0.534	0.0560	0.283
H1	-0.0942	-1.474	0.0069	0.098
H2	-0.1038	-2.091*	-0.0418	-0.759
H3	0.1128	1.918*	0.0199	0.304
H4	-0.1649	-1.781*	-0.0348	-0.338
H5	0.0193	0.357	0.0383	0.638
W1	0.1385	2.253*	0.0544	0.798
W2	0.0288	0.693	0.0614	1.333
W3	-0.0714	-1.133	-0.0704	-1.007
W4	0.1248	1.432	0.1448	1.497
W5	-0.0115	-0.176	-0.0726	-0.999

* significant at = 0.1
** CWIFTIM = WIFTIME - (3.235 + 0.609*CHILD)
MODEL I : F-value = 1.722 Prob>F = 0.0478
R^2 = 0.2002 Adjusted R^2 = 0.0839
MODEL II: F-value = 2.613 Prob>F = 0.0013
R^2 = 0.2752 Adjusted R^2 = 0.1699

TABLE III. REGRESSION ANALYSIS OF SAVING

Dependent Variable: SAVING (=AVGPRICE - COST)

INDEPENDENT VARIABLE	PARAMETER ESTIMATES	STANDARD ERROR	T FOR H_0: a = 0	PROB>ITI
MODEL I: R^2 = 0.1139 (Prob>F = 0.0032)				
INTERCEPT	60.2323	48.9171	1.231	0.2204
IS11HAT	-38.7462	13.2278	-2.929	0.0040
IS2HAT	33.7558	9.8684	3.421	0.0008
EDUC	-2.6117	2.9582	-0.883	0.3789
TOTDURA	-2.9418	4.4799	-0.657	0.5126
MODEL II: R^2 = 0.0315 (Prob>F = 0.2387)				
INTERCEPT	14.8067	55.7402	0.261	0.7945
IS12HAT	6.8281	6.2640	1.090	0.2777
EDUC	-2.1301	3.0765	-0.692	0.4899
TOTDURA	-7.6380	4.4554	-1.714	0.0888

where IS11HAT = the estimated value of categorized level of discussions
IS2HAT = the estimated value of actual number of visit
IS12HAT = the estimated value of combined measure of information search

left-over from market work, but the amount left-over adjusted for the number of children. Thus, the variable CWIFTIM is defined.

Since the functional form of the empirical model was not known *a priori*, the linear additive specification is estimated by Ordinary Least Squares. The coefficients for each dependent variable are the partial derivatives of the linear additive equation.

Results and Interpretation

From the estimation by Ordinary Least Squares method, the following results are found (Table II and Table III). First, discussion with others as a method of information search mainly depends upon the respondent's shopping attitude. The level of discussions are positively influenced by each of the following - the wife's desire to search, the degree of the husband's comparison shopping, and the wife's perception of the price-quality relationship. But, the less the husband's perception of price-quality relationship, the higher the level of discussions.

Second, the number of visits to stores in search of information depends on the average market price of the product purchased and the level of family income. The higher the average market price and the higher the level of family income, the more stores visited.

Third, the final savings depend upon the level of information search. The more stores visited, the higher the final savings. However, the less the purchase is discussed with others, the higher the final savings.

CONCLUSIONS AND IMPLICATIONS

Several consumer policy issues result from this analysis. This research shows that the level of income is positively related to the number of stores visited. Since the direct cost of search is perceived more keenly by low income consumers, its effect is to make them search less than others. Consumer policy is needed to encourage the low income consumer to reach the relevant information easily and cheaply. For example, the development of an information institution that could disseminate relevant and neutral product information to low income families would be desirable.

Most important is the finding that information search does not always create saving. The result that discussions with others decrease the level of final savings suggests that the consumer could not evaluate or could not use the information from interpersonal search well enough to benefit. Thus, consumer educators need to focus on how information is processed.

In the highly complex markets, product information is insufficient - or at least not easily available at the right place and time. Sellers have little incentive to provide appropriate information for consumer decisions; the consumer with no search may face the potential risk of deception due to misleading information. Thus, the implications for policy-making from this research include a stronger regulation of the marketing of products and services in order to minimize the consumer's need for information and to decrease the importance of information gathering as a determining factor in good purchase decisions. Regulatory measures should be applied particularly to those items that involve heavy expenditure and are so infrequently purchased by the individual consumer or family that the scope for learning by experience is severely limited.

REFERENCES

1. Alcaly, Roger E. "Information and Food Prices." The Bell Journal of Economics 7: 658-671, 1976.

2. America's Search for Quality: The Whirlpool Report on Consumers in the 80s. Benton Harbor, Michigan: Whirlpool Corporation, 1983.

3. Bennett, Peter D. and Mandell, R. M. "Prepurchase Information-Seeking Behavior of New Car Purchase: The Learning Hypothesis." Journal of Marketing Research 6: 430-433, 1969.

4. Britt, Steuart Henderson. "Advertising." Encyclopedia Americana. Vol. 1, New York: Grolier Incorporated, 1967.

5. Bryant, W. Keith. "Conditional Demand Functions, Separability, and The Length of Run: Some Notes for The Applied Researcher of Household Behavior." Journal of Consumer Studies and Home Economics 7: 187-200, 1983.

6. Bucklin, Louis P. "The Informative Role of Advertising." Journal of Advertising Research 5: 11-15, 1965.

7. Bucklin, Louis P. "Testing Propensities to Shop." Journal of Marketing 30: 22-27, 1966.

8. Bucklin, Louis P. "Consumer Search, Role Enactment, and Market Efficiency." Journal of Business 42: 416-438, 1969.

9. Carlson, John A. and Gieseke, Robert J. "Price Search in a Product Market." Journal of Consumer Research 9: 357-365, 1983.

10. Claxton, J. D.; Fry, J. N.; and Portis, B. "A Taxonomy of Prepurchase Information Gathering Patterns." Journal of Consumer Research 1: 35-42, 1974.

11. Dommermuth, William P. and Cundiff, Edward W. "Shopping Goods, Shopping Centers, and Selling Strategies." Journal of Marketing 31: 32-36, 1967.

12. Engel, James F. and Blackwell, Roger D. Consumer Behavior. 4th ed. New York: The Dryden Press, 1972.

13. Ferber, Robert. "Factors Influencing Durable Goods Purchases," In Consumer Behavior, Vol 2: The Life Cycle and Consumer Behavior. 75-112. Edited by Lincoln H. Clark, New York: New York University Press, 1955.

14. Goldman, A. and Johansson, J. K. "Determinants of Search for Lower Prices: An Empirical Assessment of The Economics of Information Theory," Journal of Consumer Research 5: 176-186, 1978.

15. Hall, Bruce F. "Price Dispersion and the Gains from Search in Local Food Markets," Journal of Consumer Affairs 17: 388-401, 1983.

16. Katona, George and Mueller, Eva. "A Study of Purchase Decisions," In Consumer Behavior, Vol 1: The Dynamics of Consumer Reaction. 30-87. Edited by Lincoln H. Clark. New York: New York University Press, 1954.

17. Lancaster, K. "A New Approach to Consumer Theory," Journal of Political Economy 74: 132-157, 1966.

18. Marvel, Howard P. "The Economics of Information and Retail Gasoline Price Behavior: An Empirical Analysis," Journal of Political Economy 84: 1033-1060, 1976.

19. Maynes, E. Scott. Decision-Making for Consumers. New York: Macmillan Publishing Company, Inc., 1976.

20. Maynes, E. Scott and Assum, Terje. "Informationally Imperfect Consumer Markets: Empirical Findings and Policy Implications," Journal of Consumer Affairs 16: 62-87, 1982.

21. Nelson, Phillip. "Information and Consumer Behavior," Journal of Political Economy 78: 311-329, 1970.

22. Newman, Joseph W. and Lockeman, Bradley D. Consumers' Information-Seeking Processes for Fashion Goods: A Literature Review. Ann Arbor: Bureau of Business Research, The University of Michigan, 1972.

23. Newman, Joseph W. and Lockeman, Bradley D. "Measuring Prepurchase Information Seeking," Journal of Consumer Research 2: 216-222, 1975.

24. Newman, Joseph W. and Staelin, R. "Multivariate Analysis of Differences in Buyer Decision Time," Journal of Marketing Research 8: 192-198, 1971.

25. Newman, Joseph W. and Staelin, R. "Prepurchase Information Seeking for New Cars and Major Household Appliances," Journal of Marketing Research 9: 249-252, 1972.

26. Pollack, R. "Conditional Demand Functions and Consumption Theory," Quarterly Journal of Economics 83: 60-78, 1971.

27. Punj, G. N. and Staelin, R. "A Model of Consumer Information Search Behavior for New Automobiles," Journal of Consumer Research 9: 366-379, 1983.

29. Stigler, george J. "The Economics of Information," Journal of Political Economy 69: 213-225, 1961.

30. Udell, Jon G. "Prepurchase Behavior of Buyers of Small Electrical Appliances," Journal of Marketing 30: 50-52, 1966.

31. Zimmermann, Linda M. K. and Geistfeld, Loren V. "Economic Factors Which Influence Consumer Search for Price Information," Journal of Consumer Affairs 18: 119-130, 1984.

MARKET LIFE CYCLES, PRODUCT DIFFUSION AND PRODUCT DIFFERENTIATION

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ABSTRACT

This paper develops an econometric model of product diffusion and differentiation and estimates the model using data on color television, black and white television and VCR sales in the United States from 1964-1985. The main hypothesis that product differentiation and new product introduction are more likely to occur as the demand for existing consumer durables slows at critical saturation levels is supported by the econometric results and by examination of historic occurances.

The introduction and diffusion of new products have been studied from the perspective of a variety of disciplines including both marketing and economics. However, some of the insight brought to bear by these studies is often lost during the translation from theory to empirics. In particular, there is often an interdependence between the demand and supply of related products that has generally been ignored in industry studies. For example, the timing of the introduction of new products may often depend critically upon demand conditions for a firm's existing product line. Similarly, demand for established products may be critically affected by the introduction of a new product. It in these types of interrelations, and how they develop over time, that this paper addresses.

The manner in which this paper goes about this is to empirically estimate a simultaneous equation system that yields demand and supply parameter estimates for a series of related goods within one relevant market. By looking at the statistical relationships between the demand and supply of related products over the sample period, inferences about how other similar markets may also develop over time.

The TV and VCR Market

A logical place to begin is by understanding the historic evolution of the market being studied, that of color televisions, monochrome (black and white) televisions and VCRs in the United States from 1964 through 1985. By the beginning of the sample period in 1964, 75.9% of U.S. households owned at least one black and white television set, while only 2.3% owned color televisions. The technology for the broadcast and reception of color picture had been available since the 1950's, but it wasn't until the 1960's that a majority of metropolitan stations began color broadcasts. Sales of monochrome televisions had leveled off in the early 1960s and serious marketing of color televisions did not begin until 1964 or 1965. By mid-1977, more households owned color televisions than black and white sets. It was during 1977 that many industry analysts were predicting that color television saturation and sales would not grow substantially beyond this point (Television Digest with Consumer Electronics, 1977, various issues). In mid-1977, SONY introduced its Betamax video cassette recorder in the U.S. By January of 1987, almost 40% of U.S. households own at least once VCR, while color television saturation had grown to 92% of U.S. households.

SECTION I.
THE THEORETICAL FOUNDATIONS FOR THE MODEL.

The major hypothesis of market development set forth in this paper can be stated rather succinctly: manufacturers are more likely to introduce new and/or differentiated products after the sales growth of its existing product line slows due to product saturation. In essence, if a manufacturer's existing product line is selling well, introducing a new product may detract from existing sales. As a result, manufacturers may be more likely to introduce a new product when existing product sales are low.

This hypothesis, coupled with some of the intuition provided by marketing models of new product growth and diffusion, can supply insight into how consumer durable markets may evolve over time.[2] Specifically, sales of successful new products often grow rapidly shortly after their introduction, as a combination of scale economies, increased competition, advertising and consumer "word-of-mouth" or "bandwagon" effects take hold. Over time, any product's saturation level (% of households owing one or more units of the good) will grow accordingly. Marketing studies of new product diffusion [1,2,4] have often observed that product sales will increase and then eventually attain a maximum level as the number of owners accumulate over time. This notion of the effect of saturation on demand, and ultimately on sales, suggests that it may be appropriate to include some measure of existing product saturation in any traditional demand specification.

With this in mind, this paper contains two specific predictions for the empirical results. The first prediction is that saturation of an existing product exerts a negative influence on product demand over some relevant range. Specifically, we would expect that increasing product saturation has a positive effect on sales at low saturation levels as "word-of-mouth" or "bandwagon" effects set in. Conversely, increasing product saturation should eventually exert a negative influence on demand above some "critical" saturation, which can vary from product to product. Once this critical saturation (call it SL*) is attained, additional sales growth should become increasingly difficult as increasing saturation decreases product demand (which should lower the product's price and quantity sold). As a result of the fall in the quantity sold and price of the existing product, producers will look to the introduction of inew products to sustain profit and sales growth in general. This leads to the second prediction: there is an inverse relationship between the price of established products and the supply of newly developed products.[3]

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[2] The theory of market development set forth in this section is most applicable to consumer durable products sold on a fairly competitive retail level such that the ability of any one firm to "lock in" consumers early on in the product's life-cycle is minimized.

SECTION II.
THE DATA.

Monthly sales (quantity), price and saturation data were collected for monochrome (black and white) televisions and color televisions from January, 1964 through October, 1955. This represents 262 time-series observations. Monthly sales and price data were also collected on VCRs from January, 1978 through October, 1985. For each of the three products, monthly retail sales and saturation figures were obtained from Television Digest with Consumer Electronics, an industry trade publication. The Producer Price Index (PPI), published by the Bureau of Statistics (BLS), was used for the price data whereever possible. Since the PPI was not available for all products for all years, a retail price index was constructed for years in which the PPI was not available. This index was constructed in three steps. First, advertised retail prices for products matching the description employed by the BLS in constructing the PPI were collected from New York area newspapers. Second, a mean advertised prices were then adjusted so that both series had equal mean and variance for the overlapping years.

In addition, data on factors influencing demand and supply decisions were collected from a variety of sources: data on disposable income was obtained from the U.S. Department of the Commerce; data on the average civilian unemployment rate and on the average hourly earnings for U.S. manufacturing workers were obtained from BLS; data on the average price of manufacturing labor in Japan and on the dollar-to-yen exchange rate were obtained from the OEDC; data on a Japanese stock market index was obtained from Business Conditions Digest; and finally, the University of Michigan's Survey Research Center's Consumer Sentiment Index and Standard and Poor's Composite Stock Index were also used. All data was adjusted for seasonal factors and inflation.

SECTION III.
THE EMPIRICAL MODEL.

Given the theoretical intuition behind the model, one difficult issue to resolve is that of appropriate functional form for, and method of, empirical estimation. Simple estimation of the demand or supply specifications by ordinary least squares is not appropriate since demand and supply are clearly interrelated. Changing supply of existing products, the introduction of new products and market conditions for competing and complementary products affect the demand for any good; demand conditions simultaneously affect supply. With this in mind, a simultaneous system of demand and supply that specifically accounts for cross-product relationships was estimated using three stage least squares:

$$Q^d_i = f^d_i\ (\mathrm{PRICE,\ PRICE\ REL,\ INCOME,\ SL,\ SLSQ,\ AGESTOCK,\ UEMP,\ CC,\ CS}) \quad (3.1a)$$

$$Q^s_i = f^s_i\ (\mathrm{PRICE,\ PRICE\text{-}REL,\ PLABORUS,\ PKAPUS,\ PLJP,\ PKJP,\ EXRJAN}) \quad (3.1.b)$$

Subscript i denotes the three products studied: monochrome televisions, color televisions and video cassette recorders, respectively. Q_t^d signifies quantity demanded in period t. PRICE and SL represent the durable's price and saturation level, respectively. SLSQ is equal to the product's saturation rate squared. INCOME denotes per-household income and AGESTOCK is a variable adjusting for the average age of the outstanding stock. PRICE-REL represents the price of related (complementary and substitute) goods. UEMP, CC and CS denote the aggregate civilian unemployment rate, the University of Michigan's index of consumer sentiment and outstanding consumer installment credit, respectively. On the supply side, PLABORUS and PKAPUS are variables representing the price of labor and the price of capital in Japan. Finally, EXRAN is the dollar-to-yen exchange rate. The later variables were added to the supply-side specification because each of the products are produced, either in part or in whole, overseas.

The saturation rate variable is specified with a corresponding square term for a variety of reasons. First, it provides us with an estimate of a saturation rate that maximizes demand. Second, specifying it in this fashion produces an equation, (3.1), which is very similar to many of the marketing models of new product growth [1,4]. This allows for a direct comparison of the models and results. Third, it is the simplest of all non-linear specifications.[4]

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[3] The specific theoretical model developed in the study is detailed in Putsis (6). Hanemann (5) provides an excellent discussion of the economic foundation of the discrete choice model employed in Putsis (6).

[4] If we specify the demand function as in (3.1), the critical saturation level of any product, SL*, is the saturation level at which the partial derivative of product demand with respect to product saturation equals zero.

With respect to supply, neo-classical production theory suggests that output supply equations should generally be specified as a function of the output price of the product being produced, as well as the price of inputs in the production process. In this specification (3.1), the output goals of this study is evaluating the between-product interaction from a supply, as well as demand, perspective, the appropriate supply-side model to be used is that of a firm producting more than one output. The literature on such firms suggests that supply equations, in the case of "multi-product" firms, should include the output price of all related products as well as the "own" output price.[5] Accordingly, the supply specification of (3.1) includes cross-output prices as well as the price of the output corresponding to the dependent variable.

Thus, an equation system of the form of (3.1) was estimated for monochrome and color televisions over the period 1964-1977 and for all three products from 1978-1985. Dividing the sample into two sub-samples was necessary because of the fact that VCRs were not available until mid-1977. Thus, an equation system including color and monochrome televisions only was the relevant system prior to the introduction of the VCR and the relevant system included all three products after 1977.

SECTION IV.
RESULTS.

Recalling the discussion in Section I, two predictions were made about the empirical results obtained by estimating the system (3.1). The first prediction stated that increasing saturation should exert a positive influence on demand at low saturation rates and a negative influence on demand at saturation levels greater than some critical level. In addition, via the specification of the saturation level variable in the system of equations (3.1), an estimate of the critical saturation (SL^*_k) at which demand begins to slow can be derived.[6] The decline in price of an established product (due in part to increasing saturation) is expected to promote the introduction and supply of new products. Thus, the second prediction is that there is an inverse relationship between the price of established products and the supply of new products.

Figure 1 graphically portrays the estimated relationship between product saturation and demand.

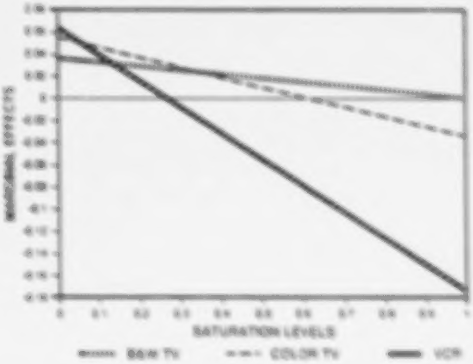

Figure 1. The estimated relationship between product saturation and demand.

The estimated critical saturation level for monochrome televisions is 62.1%, a level that was attained in the late-1950's. The estimated critical saturation level for color televisions is 95.3% and 27.1% for VCRs, respectively. Each of the estimated saturation coefficients were statistically different from zero at all practical levels of significance. Note that the estimated critical saturation for all three products (Figure 1) followed the predicated pattern suggested by the discussion in Section I.

The second prediction of a negative relationship between the price of established products and the supply of new ones also held up well under the scrutiny of the empirical results: the estimated coefficient on the price of monochrome televisions in the color television supply equation over the first period (1964-1977) was negative and statistically significant; the estimated coefficients on the price of both color and monochrome televisions in the VCR supply equation over the second period (1978-1985) were negative and highly significant as well.

The empirical results are consistent with the theory outlined in Section I and they can be used to help understand the development of the general market for video products over the past three decades. In particular, a repeating pattern of differentiation and new product introduction seems to have occured in the market for video products over the life of the sample. Color televisions began to be mass-marketed and widely advertised shortly after the saturation level of monochrome sets attained its estimated critical saturation level of 62% and shortly after monochrome sales began to slow. Supply-side results suggest that this slowing demand contributed positively to the supply of color televisions. Similarly, VCRs were introduced at a time when color television sales appeared ready to plateau and when industry experts were predicting a continued slowing of sales growth. Again, supply-side results suggest that depressed conditions in the market for televisions contributed positively toward the supply of VCRs during the late-1970s. Now that VCRs have exceeded its critical saturation level of 27%, we are beginning to observe product differentiation at a low level (stereo, dolby and dubbing capabilities for example). If history repeats and the empirical results are correct, we should begin to see a series of new video products introduced on a wide scale in the U.S. over the next year or two in addition to video cancorders.

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[5] See Beattie and Taylor (1985).

[6] Provided, of course, that: 1) the estimated coefficients on the saturation level (positive) and saturation level squared (negative) variables were of the correct sign and statistically different from zero and 2) the estimated critical saturation was between zero and one. Conditions (1) and (2) were met for all three products accross both sample periods.

[7] During the first period, the established product grouping was monochrome televisions, while the newly introduced product was color televisions. In the second period, VCRs were the newly introduced product, while both monochrome and color televisions were established.

SECTION V.
CONCLUSION.

The theory of product differentiation and market development over time appears to be supported by the results and by market occurances over time: the theory has met the minimum requirement of consistency with the empirical results. Note that the results are consistent with the theory outlined in Section I, but they do not conclusively test the theory. Nonetheless, we are able to set forth a fairly convincing story of the development of the market for video products over the life of the sample based upon the empirical results. The theory as outlined in Section II holds promise for explaining new product introduction and subsequent sales growth in other consumer durable markets. Future research must test the robustness of the theory to see whether or not other markets develop similarly over time.

REFERENCES

1. Bass, Frank M., "The Relationship Between Diffusion Rates, Experience Curves, and Demand Elasticities for Consumer Durable Technological Innovations," Journal of Business, 53(3), pt. 2, 1980, s51-s67.

2. ---------------, "A New Product Growth Model for Consumer Durables," Management Science, 15(5), January 1969, 215-227.

3. Beattie, Bruce R. and C. Robert Taylor, The Economics of Production, John Wiley and Sons, New York, 1985.

4. Dodson, Joe A. Jr., and Eitan Muller, "Model of New Product Diffusion through Advertising and Word of Mouth," Management Science, 24 (15), Nov. 1978, 1568-1597.

5. Hanemann, W., "Discrete/Continuous Choice Models of Consumer Demand," Econometrica, 52(3), May 1984, 541-562.

6. Putsis, Jr., William P., Market Life Cycles, Product Diffusion and Product Differentiation, unpublished Ph.D. dissertation, Cornell University, Ithaca, NY 1987.

ARE CONSUMERS' LEARNING AND DECISION-MAKING RELATED PHENOMENA?

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ABSTRACT

This research explored the interrelations between individuals' learning styles and their related consumer decision-making styles. A *Secondary Learning Styles Inventory* was developed to measure six characteristics of learning, and a *Consumer Styles Inventory* was developed to measure eight major characteristics of consumer decision-making. Correlation and contingency table analyses indicated significant relations between 28 of the 48 learning and consumer-decision-making pairs of characteristics. These unique findings reveal important linkages between human learning and consumer decision-making, with implications for the practice of consumer education and the dissemination of consumer information.

The decisions a consumer makes to purchase products and services are based on a process of learning. This is an almost axiomatic statement to consumer educators and those involved with consumer-interest studies in general. But even though we assume that consumers' learning and decision-making are related phenomena, this relationship has not been systematically explored in consumer research.

The research reported in this paper explores these relationships between individuals' learning styles and their consumer-decision making styles. Specifically, we introduce two recently developed methods for measuring learning styles and consumer-decision making styles, and examine the intercorrelations of learning and decision-making styles based on these measures. As we shall see, there are important relations between an individual's general style of learning and their specific styles of consumer decision-making. These relations have especially important implications for the development of effective consumer education and informational programs, particularly in understanding how differences in individual approaches to learning lead to widely different consumer decision-making styles.

BACKGROUND AND THEORETICAL FRAMEWORK

We begin by summarizing the conceptual frameworks for measurement of learning styles and consumer decision-making styles. Since the measurement of learning styles is relatively new, and may be less familiar to some consumer educators, we will introduce this in some depth followed by a brief introduction to consumer decision-making styles.

A learning style is defined as "the way each person absorbs and retains information and/or skills" (Dunn, 1984 p. 12). Each learner has an individual learning style, which is thought to be an enduring, patterned and preferred mode of learning. An individual's learning style may be characterized across many dimensions, much as individual personality is characterized by psychologists into "personality characteristics."

The investigation of learning styles is relatively new to education, having started principally in the 1970's. Springing from early work on cognitive style (e.g., Kirby 1979), several major approaches to measuring and characterizing learning styles have evolved. Exemplifying the range of approaches are those in comprehensive and seminal books by Dunn and Dunn (1978) and Kolb (1984). For reviews of other established and emerging approaches, see publications by the National Association of Secondary School Principals (1979, 1982), Gregorc (1982), Knaak (1983) and Dunn (1984).

Various investigators characterize learning styles across many dimensions. Some focus on cognitive aspects, such as abstractness and concreteness in learning style, and some consider emotional-psychological dimensions, such as motivation and responsibility. Others consider teaching rather than learning style characteristics, such as students' preferences for teaching methods (i.e., lectures, discussions, labs, etc.). Because a central goal in understanding learning styles is the characterization of how the mind operates when learning, most well-known methods include the cognitive and affective (i.e., emotional, motivational) characteristics of learning styles.

One of the most well-developed approaches to learning styles, from both the theoretical and empirical perspectives, is based on the experiential learning theory of Kolb (1984). Because of its extensive theoretical development and empirical validation, Kolb's work is the basis for the learning styles measure used in the present research. This approach is basically cognitive and has been derived from diverse foundations, including the psychological type theories of Carl Jung, the cognitive development theories of Jean Piaget, the social psychology of Kurt Lewin, and the experienced-based learning advocated by John Dewey.

Though the complete theory is intellectually complex, the underlying structure of the theory is straightforward. Basically, learning is conceived as a cycle of four stages: (1) learning starts with certain concrete experiences, (2) from which individuals make certain observations, (3) from which they then develop more abstract generalizations, (4) which they then test and revise in new situations.

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This conceptualization also suggests an important hypothesis that learners use the following four different modes of learning abilities to succeed:

1. Concrete experience abilities, or an openness to being involved with new experiences and new situations openly and without bias (with emphasis on an intuitive rather than analytical learning).
2. Reflective observation abilities, or an ability to understand the meaning of ideas, experiences or situations by careful observation (here, open-mindedness and thoughtful judgment are important).
3. Abstract conceptualization abilities, or the ability to integrate concepts into theories (this emphasizes analyzing and thinking).
4. Active experimentation abilities, or the ability to actually apply theories or ideas to practical applications or to solving problems.

The modes of concrete experience and abstract conceptualization are theorized to be the opposite skills of one another, as are reflective observation and active experimentation. Thus, Kolb proposes two underlying dimensions to the learning process: (a) the concrete to abstract dimension, and (b) the active to reflective dimension. Theoretically, each individual falls toward one extreme or the other on each of these two dimensions. For example, one learner may learn more in concrete terms and less in abstract terms (or vice versa); similarly, a reflective learner may be less likely to be an active learner. In short, it is hypothesized that individuals tend to place more emphasis on some modes of learning and less on others.

Overall, Kolb's work provides a very advantageous base for characterizing the structure of learning styles. It has a well-developed theoretical foundation, probably the most complete published. Furthermore, the theory is current, and is highly visible as a result of previous publication (i.e., Kolb's seminal 1984 book). Kolb provides a fairly complete yet parsimonious theory to use. His primarily focus, how the mind operates as the learner encounters learning experiences, is a particularly appropriate concept of learning style. And finally, Kolb's Learning Styles Inventory (1976, 1984) has been established as a reliable and valid empirical operationalization of experiential learning theory.

The only significant limitation of Kolb's instruments is that they are abstract in content and can be used only with adult, college-educated individuals. To adapt Kolb's theory and methods to a younger and broader population, Kendall and Sproles (1986) developed a Secondary Learning Styles Inventory to measure the characteristics of learning at the secondary school age level. Based on administration of this instrument to 482 high school students, the experiential learning theory was partially confirmed but additional characteristics of learning were found as well. The research identified six characteristics of learning: (1) Serious, Analytical Learner, or one who enjoys thinking through difficult material in a serious and often abstract manner; (2) Active, Practical Learner, or a person who enjoys learning by doing, with a highly practical and experience-oriented preference for learning; (3) Observation-Centered Learner, or one who enjoys first seeing and then doing in their learning experiences; (4) Passive, Accepting Learner, or one who is a quiet, basically uninvolved learner who tries to absorb what they hear and reflect on it as a learning preference; (5) Concrete, Detailed, Fact-Oriented Learner, or a person who enjoys "nitty-gritty," meticulous details of the learning experience; and (6) Non-Adaptive, Struggling Learner, or one who feels uncertain in their learning and perceives learning as a difficult experience. This model of six learning style characteristics has been further confirmed by Kendall, Cox and Sproles (1986), on a sample of over 2,000 high students throughout Arizona. Thus the Secondary Learning Styles Inventory appears to have validity and generalizability to large populations of younger learners, and is appropriate to measure learning styles for the present research.

Now we turn briefly to the measurement of consumer decision-making styles. A consumer decision-making style is defined as "a mental orientation characterizing a consumer's approach to making consumer choices" (Sproles and Kendall, 1986). Relevant literature suggests consumer styles may be characterized by the lifestyle approach, the consumer typology approach, and the consumer characteristic approach (e.g., Bettman 1979, Jacoby and Chestnut 1978, Maynes 1976, Miller 1981, Sproles 1984, Wells 1974, and Westbrook and Black 1985). Based on this literature, Sproles and Kendall (1986) developed a Consumer Styles Inventory that measured eight basic characteristics of consumer decision-making styles: (1) Perfectionistic, High Quality Conscious Consumer, a characteristic measuring the degree to which a consumer searches carefully and systematically for the best quality in products; (2) Brand Conscious, Price Equals Quality Consumer, or one measuring a consumer's orientation toward buying the more expensive, well-known national brands; (3) Novelty and Fashion Conscious Consumer, a characteristic identifying consumers who appear to like new and innovative products and gain excitement from seeking out new things; (4) Recreational and Shopping Conscious Consumer, a characteristic measuring the extent to which a consumer finds shopping a pleasant activity and shops just for the fun of it; (5) Price Conscious, "Value for Money" Consumer, a characteristic identifying those with particularly high consciousness of sale prices and lower prices in general; (6) Impulsive, Careless Consumer, one identifying those who tend to buy at the spur of the moment and appear unconcerned how much they spend or getting "best buys;" (7) Confused by Overchoice Consumer, or those consumers perceiving too many brands and stores from which to choose, and experiencing information overload in the market; and (8) Habitual, Brand Loyal Consumer, a characteristic indicating consumers who may have favorite brands and stores, who have formed habits in choosing these repetitively.

METHODOLOGY

The Secondary Learning Styles Inventory and the Consumer Styles Inventory were administered to all 501 students in 29 secondary home economics classes in five high schools in the Tucson area. The high schools included urban, suburban and rural locations and represented the socio-economic and cultural groups in the area. All questionnaires were edited and those with incomplete or unlikely responses were deleted, resulting in 482 useable questionnaires. Demographic data indicated subjects were broadly representative of high school home economics students in the Tucson area.

Using data from the sample of 482 subjects, the learning styles characteristics were confirmed by factor analysis. Similarly, consumer decision-making styles characteristics were identified by a separate factor analysis. In both factor analyses the principal components method with varimax rotation of factors and communality estimates of 1.0 were employed. Further details of this methodology and validation of measures are reported in journal articles elsewhere (Kendall and Sproles 1986, Sproles and Kendall 1986).

Factor scores were calculated for each individual for each factor identified in the two factor analyses. Using these factor scores as a data base, two approaches were used to explore the interrelationships between individuals' learning styles and their consumer decision-making styles: (1) Pearson Correlation to assess the basic association between each learning style and consumer style characteristic, and (2) contingency table analysis of high (top third) versus moderate to low scores (middle to bottom third of scores) on each pair of learning style-consumer style characteristics. These analyses provide two perspectives on the data, an individual-level analysis of associations, and a group-level analysis. Thus, this gives a comprehensive univariate exploration of the data.

RESULTS AND DISCUSSION

Table 1 presents the correlations of each individual consumer style and learning style characteristic, and Table 2 summarizes the contingency table analysis. Table 2 reports only the proportion of consumers scoring high on each consumer-learning style characteristic pair. Overall a total of 28 of the 48 learning style and consumer style characteristic pairs had statistically significant relations in at least one of the two statistical analyses. This suggests that there are substantial interrelationships between consumers learning and decision-making. The most important relations will now be examined individually.

First we look at the perfectionistic consumer style characteristic. Here we find four of six learning style characteristics significantly related to perfectionistic consumer behavior, both in the individual and group-level analyses (Tables 1 and 2). It appears that a serious, analytical learning style is correlated strongly with perfectionistic and quality conscious consumer behavior, although other characteristics are noticeably correlated as well. It also appears active learning and observation-centered learning are positively associated with the perfectionistic consumer characteristic. However, passive and accepting learning is negatively correlated, reinforcing the findings on the other characteristics. These relations suggest that consumers who are perfectionistic and high-quality conscious in their behavior have a balanced learning style of a number of characteristics which would impact favorably towards their goal-oriented behavior as a consumer. These have important implications that will be discussed in the conclusions section.

The brand conscious consumer characteristic has minimal relationship to learning style characteristics. Only the non-adaptive struggling learner characteristic was found associated with brand conscious consumer behavior, and this has only a modest correlation although it does indicate some broad relationship. This suggests, although tentatively, that the brand conscious individual is so partly because they are non-adaptive learners in general and find pursuing brands an easy strategy for making consumer choices with minimal learning input.

The novelty and fashion conscious consumer characteristic also has important and noticeable associations with specific learning style characteristics. Modest but statistically significant correlations were found with serious learning, observation-centered learning, and passive, accepting learning. In addition, active and practical learning also appears associated with novelty and fashion consciousness (Table 2). Thus the novelty and fashion conscious consumer is similar in style to the perfectionistic one, but with the important exception that they may have a passive and accepting learner characteristic as well. This implies that the novelty conscious consumer may not always be concerned with the implications of buying new and novel products, which could include negative results either in the performance of products or their social acceptability.

Next we look at the recreational shopping conscious consumer. Their learning style is modestly associated with active learning and negatively associated with passive and non-adaptive, struggling learning. Therefore the recreational shopper appears to have a learning style that favors their involvement and enjoyment of shopping. Furthermore, the recreational shopper is apparently not a non-adaptive or struggling learner, and likely learns from his/her shopping experiences. Whether those learning experiences lead to positive or negative consequences is undetermined, however.

TABLE 1. Correlation of Consumer Style and Learning Style Characteristics[1]

CONSUMER STYLE CHARACTERISTICS	LEARNING STYLE CHARACTERISTICS					
	SERIOUS, ANALYTICAL LEARNER	ACTIVE, PRACTICAL LEARNER	OBSERVATION-CENTERED LEARNER	PASSIVE, ACCEPTING LEARNER	CONCRETE, DETAIL, FACT LEARNER	NON-ADAPTIVE, STRUGGLING LEARNER
PERFECTIONISTIC	.25***	.15***	.15***	-.14***	--	--
BRAND CONSCIOUS	--	--	--	--	--	.10**
NOVELTY-FASHION CONSCIOUS	.16***	--	.16***	.14***	--	--
RECREATIONAL SHOPPING CONSCIOUS	--	--	--	-.09*	--	-.12**
PRICE-VALUE CONSCIOUS	.14***	.21***	.10**	.14***	.17***	--
IMPULSIVE	-.13***	.11**	--	--	--	.29***
CONFUSED BY OVERCHOICE	.08*	--	--	.15***	.14***	.14***
HABITUAL, BRAND LOYAL	.11**	.09*	--	--	.08*	--

[1] Table includes only statistically significant correlations.

Level of Significance:
*p< .10
**p< .05
***p< .01
-- Not Significant

TABLE 2. Percentage of Subjects Scoring High on Both Learning and Consumer Decision-Making Characteristics

CONSUMER STYLE CHARACTERISTICS	LEARNING STYLE CHARACTERISTICS					
	SERIOUS, ANALYTICAL LEARNER	ACTIVE, PRACTICAL LEARNER	OBSERVATION-CENTERED LEARNER	PASSIVE, ACCEPTING LEARNER	CONCRETE, DETAIL, FACT LEARNER	NON-ADAPTIVE, STRUGGLING LEARNER
PERFECTIONISTIC	43***[1]	41***	41***	27*[2]	--	--
BRAND CONSCIOUS	--	--	--	--	--	--
NOVELTY-FASHION CONSCIOUS	41***	43***	40***	--	--	--
RECREATIONAL SHOPPING CONSCIOUS	--	44**	--	--	--	--
PRICE-VALUE CONSCIOUS	--	42***	--	--	37*	--
IMPULSIVE	--	--	--	--	--	45***
CONFUSED BY OVERCHOICE	--	--	--	--	39*	47***
HABITUAL, BRAND LOYAL	--	39*	--	26**[2]	--	--

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[1] Read 43% of these scoring high as serious, analytical learners also scored high as perfectionistic consumers. This was statistically significant (p< .01); see page 9 for method employed.

[2] For these items, a lower percentage than expected by chance scored high on both characteristics.

Level of significance:
*p< .10
**p< .05
***p< .01
-- Not significant

The price and value conscious consumer characteristic appears associated positively with five of the six learning style characteristics. Particularly notable are the positive associations between active learning and concrete, fact-oriented learning. It would seem that those who are price and value conscious enjoy taking an active learning process, perhaps by shopping a number of stores, and they also like looking at details of learning, which could include prices of various products. Thus, the price and value conscious individual appears to have a learning style perfectly adapted to shopping the market and doing careful comparisions.

The impulsive consumer characteristic has three significant relations with learning styles, one of which appears to be especially important. Here we find impulsiveness is strongly associated with non-adaptive, struggling learning. This points out that those who are impulsive in consumer behavior might have this characteristic because they have difficulty in learning or do not want to be bothered with the learning process. This possible perspective is further reinforced by the negative correlation between impulsive consumer behavior and the serious analytical learner characteristic. It appears that the impulsive consumer may actually be "turned off" by a serious approach to learning.

The seventh consumer characteristic is confused by overchoice, and here we find associations with four of the six learning characteristics (Tables 1 and 2). The confused consumer seems to be especially characterized by two characteristics, the concrete, fact-oriented learning characteristic and the non-adaptive struggling learner characteristic. These are interesting findings, for they suggest that the confused or "information overloaded" consumers may achieve that state because they are detailed and fact-oriented in their learning style. They may become mentally overloaded when they try to learn about different choices. Further, the confused consumer appears non-adaptive and struggling as a learner in general, which suggest that confusion could happen rather easily for individuals typified by this learning style.

Finally, this consumer seems to be somewhat passive in their learning style as well.

Last we look at the habitual, brand loyal consumer characteristic. Here we find four of the six learning style characteristics associated with the consumer style characteristic in at least one of the two analyses. Findings for this consumer characteristic are equivocal however, and must be treated tentatively. It appears that habitual behavior may be associated with serious learning and particularly active and practical learning, and less associated with passive, accepting learning. This suggests the habitual consumer may have engaged in serious and active learning experiences that perhaps lead to forming habits of consumer behavior based on past positive experiences.

CONCLUSIONS

This exploratory study examined the interrelations between individual learning styles and specific consumer decision-making styles. We have found statistically significant relationships between 28 of the 48 learning style-consumer style characteristic pairs, a substantial number. Previous research has not explored the extent of these interrelationships, but the present study indicates that certain characteristics of consumer decision-making may have important foundations in individual learning styles. In this conclusion section we will focus attention towards those most important parts and their relationship to the fields of consumer education and information.

Perhaps the most important finding with educational implications are the relationships found between perfectionistic, high quality conscious consumer decision-making and the active and serious approaches to learning. These findings appear to imply that consumers who are seeking the best results in their purchases have a particular learning style that favors systematic and serious market search and learning. Thus those consumers most likely to achieve defined goals in consumer decisions are those with a balance of learning style characteristics to apply. Consumer educators often emphasize the care that consumers need to take in searching the market in order to obtain defined goals, and these findings reinforce the validity of such an educational approach. In addition the findings suggest that other learning style characteristics that will lead consumers to better decisions could and should be emphasized as well.

The novelty and fashion conscious consumer characteristic also had a particular learning style attached to it that has educational implications as well. Note that the learning style of those that are high in novelty and fashion consciousness is very similar to those who are perfectionistic, with the exception of the one characteristic of passive, accepting learner. The novelty conscious consumer may sometimes be passive; thus they may not consider the implications of their actions. Since sometimes novelty and fashion products are viewed by consumer educators as less satisfactory or possibly "wasteful" consumer behaviors, it may be pointed out to consumers the potential negative consequences that their "passive and accepting" approach to buying may have. Passive and accepting learning has the potential of leading to negative consequences, if the individual does not think out the consequences, and this may leave a negative aspect to being novelty and fashion conscious in consumer behavior.

Those consumers who have high recreational shopping consciousness appear to have a far different learning style with important educational implications as well. Here we find an associated active and practical learning style, but little relation to the more "thought-oriented" characteristics of learning (e.g., serious and concrete learning characteristics).

The recreational shopper is seeking fun and a kick, to be sure, but they should also be assisted in becoming aware that their strategy seems to de-emphasize more careful and rational learning. However, we must also note that those individuals who emphasize recreational shopping consciousness are not passive or struggling learners. Thus they may apply some learning to their decision-making, but it still appears they likely apply less than consumer educators might predict would lead to the desired consequences or goals of the consumer.

With respect to the price and value conscious consumer, we find the broadest balance of learning style characteristics. The price and value conscious consumer appears to have many positive learning behaviors which should not be surprising given that price and value consciousness involves serious comparision shopping and learning of alternatives. And these consumers clearly may bring a variety of learning styles to their decision-making process.

Perhaps the biggest learning problems found in this research are related to those who are impulsive and confused by overchoice. For those two characteristics we found strong associations with non-adaptive, struggling learning and other learning characteristics as well. Thus consumers who are impulsive and are confused by overchoice in the market are special targets for consumer education. For these consumers more serious and analytical learning approaches as well as observation-centered learning approaches may be desirable. And educators should especially note that the concrete and the fact-oriented learning characteristic may actually cause some consumers to be confused; thus concrete and fact-oriented learning can be dysfunctional to some consumers. In particular, consumer educators in the classroom (e.g., high school classes in consumer education) should identify students scoring high in impulsiveness and confusion and help them develop their learning styles to reflect positive outcomes.

Finally we look at the educational implications related to the brand consciousness and habitual, brand loyal consumer characteristics. Though some findings were significant, these are the most equivocal of this research. It does appear that brand consciousness may be related to non-adaptive learning, and being conscious of brands is simply a mechanism to avoid having to learn. If so, that suggests a problem for consumer educators. However, the habitual and brand loyal consumer characteristic has modest but significant relations to several relatively desirable learning style characteristics: serious, analytical learning; active, practical learning; concrete and fact-oriented learning. Though these findings are tentative, they do imply that consumers who are habitual and brand loyal may be using positive learning strategies and may have formed their habits based on positive experiences and outcomes. Thus we should not consider the habitual and brand loyal behaviors as necessarily negative or non-functional behaviors, for there will be situations where these consumer behaviors are based on careful prior thinking and learning. Habitual consumer behavior, in short, may not be as negatively-based a consumer phenomenon as sometimes implied.

Throughout this research, we have implied that particular learning style characteristics lead to consumer decision-making styles. In fact there may be such a direct *causal* relations between general learning styles and the specific consumer decision-making styles we have researched. However, it is important to point out that we have not proven a cause-effect relationship in this research. What our exploratory research has accomplished is the identification of possible relations between learning and consumer decision-making. It is important for consumer researchers to continue these types of investigations, for although we assume a relationship, rarely has consumer education research been done to link learning to decision-making. Thus this study is one first step in the direction of carefully delineating the associations of human learning and consumer decision-making, but it is one of many steps which must yet be taken before we fully understand those relations and particularly their causal nature.

We have indicated that our findings may have major implications for the development of general consumer education. Also note that the development and validation of the *Secondary Learning Styles Inventory* and the *Consumer Styles Inventory* are important end results of this research in themselves. Consumer educators should apply such measurement methodologies in their classes, and seek out relations between the learning styles and consumer styles of their students (see the references cited for details on the measurement methodologies and classroom applications). Those methodologies allow us to profile the individual learning and consumer decision-making characteristics of students, and to educate students on their particular strengths as well as areas needing modification. If students are helped to understand their own learning and decision-making styles through these measures, they will likely be more receptive to efforts to improve their learning and consumer decision-making than if they're simply told what to do. Furthermore, if teachers know students' learning and consumer decision-making styles, they can develop complementary classroom teaching strategies appropriate to the goals of consumer education. Ultimately such measures may help us develop consumer educational strategies that are less normative or prescriptive, and based more on positive understanding of the human learning process and the particular characteristics that consumer decision-makers bring to their decisions. Consumer decision-making is a function of the learning processes people pursue, and the only way we can help consumers become better and more effective decision-makers is to help them understand and improve their learning style characteristics leading towards more effective decision-making.

REFERENCES

Bettman, James R. (1979), An Information Processing Theory of Consumer Choice, Redding, Massachusetts: Addison Wesley Publishing Company.

Dunn, Rita (1984), "Learning Style: State of the Science," Theory into Practice, 23(No. 1; Winter):10-19.

Dunn, Rita and Kenneth Dunn (1978), Teaching Students Through Their Individual Learning Styles: A Practical Approach, Reston, Virginia: Reston Publishing Company, Inc.

Gregorc, Anthony F. (1982), An Adult's Guide to Style, Maynard, Mass: Gabriel Systems, Inc.

Jacoby, Jacob, and Robert W. Chestnut (1978), Brand Loyalty: Measurement and Management, New York: John Wiley and Sons.

Kendall, Elizabeth L., and George B. Sproles (1986), "Learning Styles of Secondary Vocational Home Economics Students: A Factor Analytic Test of Experiential Learning Theory," The Journal of Vocational Education Research, 11 (No. 3; Summer):1-15.

Kendall, Elizabeth L., David E. Cox and George B. Sproles (1986), "Characterizing Vocational Students' Learning Styles: A Replication and Generalization of Findings," manuscript in review.

Kirby, Patricia (1979), Cognitive Style, Learning Style, and Transfer Skill Acquistion (Information series no. 195), Columbus, Ohio: The National Center for Research in Vocational Education, The Ohio State University.

Knaak, William C. (1983), Learning Styles: Applications in Voc Ed (Information series no. 254), Columbus, Ohio: The National Center for Research in Vocational Education, The Ohio State University.

Kolb, David A. (1976), Learning Styles Inventory: Technical Manual. Boston: McBer and Co.

Kolb, David A. (1984), Experiential Learning: Experience as the Source of Learning and Development, Englewood Cliffs, N.J.: Prentice-Hall.

Maynes, E. Scott (1976), Decision-Making for Consumers: An Introduction to Consumer Economics, New York: Macmillan.

Miller, Roger LeRoy (1981), Economic Issues for Consumers, New York: West Publishing Company, Third Edition.

National Association of Secondary School Principals (1979), Student Learning Styles: Diagnosing and Prescribing Programs, Reston, Virginia: National Association of Secondary School Principals.

National Association of Secondary School Principals (1982), Student Learning Styles and Brain Behavior, Reston, Virginia: National Association of Secondary School Principals.

Sproles, George B. (1984), "From Perfectionism to Fadism: Measuring Consumers' Decision-making Styles," Proceedings, American Council on Consumer Interests, pp. 79-85.

Sproles, George B., and Elizabeth L. Kendall (1986), "A Methodology for Profiling Consumers' Decision-making Styles," The Journal of Consumer Affairs, 20, (No. 2, Winter):267-279.

Wells, William D., ed., (1974), Life Style and Psychographics, Chicago: American Marketing Association.

Westbrook, Robert A., and William C. Black (1985), "A Motivational-Based Shopper Typology", Journal of Retailing, 61 (No. 1, Spring):78-103.

THE RELATIVE IMPORTANCE OF ECONOMIC FACTORS IN PARENTS' CHOICE OF AFTER-SCHOOL CHILD CARE

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ABSTRACT

Given that the need for after-school child care is expected to increase in the future, and that much concern is being expressed about the long-term effects of self-care arrangements on children, it is essential that researchers come to grips with the choice process of parents. This study attempts to develop and apply an instrument to do so. Findings indicate that, for one small sample of parents at least, self-care may not be a "default" facility chosen because of its low cost relative to other forms of care, but the outcome of a decision process whereby parents trade off economic with child care factors, to find an arrangement which is satisfactory to parents and appealing to the child. Economic factors are important in this process, but secondary to noneconomic factors. Of concern is the brevity of the information search effort accompanying the choice.

INTRODUCTION

Research in the area of after-school child care has tended to concentrate on self-care (latchkey) arrangements and their impact on the child [2, 7, 9, 11, 14, 20, 24, 26, 27]. Self-care arrangements are only one of a number of alternatives facing parents, however, and those concerned with policy on after-school care have tried to develop or promote what they feel are the viable alternatives [5, 8, 29, 31, 32]. The need for policy initiative has been made imperative by a general concensus that alternatives are required, and will be required to an increasing degree in the future [3, 4, 13, 15, 21, 30, 34]. The question as to whether parents would use these alternatives remains. Only limited attention has been given to the factors which contribute to parents' decisions about after-school care [but see 17, 19, 25, 28].

Like any other item of the family budget, after-school child care can be demanded in the amount and quality the family unit can afford from among the available offerings. If, as with economic goods in general, the cost of child care to the family increases with quality and quantity, then a trade-off between noneconomic and economic factors is inevitable [6, 10, 12, 16, 33]. Put another way, economic factors will be an integral part of parents' choice calculus. This would be the case whether child care were seen as a consumer good or as an investment in human capital [1]. In either case, the parent would seek to maximize the expected benefits of the purchase given the resources of the family.

The economic aspects of parental choice are of particular interest where after-school child care is concerned. In the first place, obtaining the information required in order to make the optimal decision on after-school care can be an arduous and costly process, which raises the possibility that the information search may be cut off before the best affordable program is identified [22, 23]. Secondly, the self-care possibility always exists as a low-cost alternative to purchased formal programs. Parents may choose not to purchase on the market at all, but set up a self-care arrangement for their children.

It is the aim of this paper to explore the relative influence of economic aspects of after-school child care on parents' choice of child care facilities. In particular, this study will attempt to show whether and how economic factors entered into the child care decision of a sample of working parents. It is hoped that such a study, which compares the choice process over a range of available alternatives, will both supplement the existing literature on parents' choice of care facilities and provide a framework for further study of the phenomenon.

The choice of child care facility is represented as depending directly on two information processing exercises, namely the assessment of economic and noneconomic variables respectively; and indirectly on the information search process.

Parents' economic calculus involves comparison of the costs associated with each of the child care alternatives which the parent considers. Costs comprise the direct monetary cost of the program, which is usually fees or hourly babysitter wages; incidental costs, such as preparation of meals or fees for outings, and costs associated with transportation of children to and from the program. These are assessed in the light of the family's economic resources, represented by family real income.

Noneconomic variables in the choice process are grouped into four main categories. First are program factors, which are characteristics of the programs being considered, such as educational content or recreational facilities. Second are child care factors, or factors relating to the physical quality of facilities offered, such as safety or cleanliness of the surroundings. Third are neighborhood factors, such as incidence of crime, which are factors external to the program but which comprise its environment. Finally, child factors represent the fitness of the child for the program, and would include the child's maturity or the child's own preferences. Parents need not, of course, consider all categories nor all items of any one category when making their particular decision, but for the purpose of a general model, all are regarded as potentially important to the decision-making process of parents.

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The efficiency of the choice made by parents depends a great deal on the information search process which accompanies it. The search process provides information on economic and noneconomic variables which are then evaluated in the child care decision-making process. The extent of the information search is itself influenced by economic and noneconomic factors. Economic factors are the monetary and time cost of search, and the transportation resources available in that parents may wish to do a site visit. These are augmented by the prior knowledge parents possess of available child care facilities, and the help they can invoke from friends, relatives, neighbors or workmates in obtaining information.

METHOD

Data for this study were obtained from personal interviews in a nonprobability sample drawn from industrial work settings and center-based after-school programs in a Midwest community of about 100,000 residents. Personal interviews were preferred to a mail or telephone survey because of the depth of information on the child care choice that could be obtained through a one-on-one interaction with parents. The technique is, however, costly in terms of research resources; richness of detail is necessarily counterbalanced by smallness of numbers when the research budget is not extensive. The present study, which should be regarded as exploratory in nature, consists of 41 cases.

Interviews were solicited by a printed announcement about the study, which the personnel offices of three large firms distributed to their employees. Individuals were considered eligible for the study if they had one or more elementary school children not in the care of a parent or adult relative after school. Interviews were conducted at the convenience of respondents, and took 30 to 90 minutes to complete. The interview schedule consisted of 83 questions.

The initial announcement yielded 31 cases. A perusal of responses showed that there was an inadequately small number (4) of center-based after-school program users in the sample. To increase the sample of center-based programs, administrators of four such programs were asked to circulate the printed announcement of the study to parents using the facility. This yielded an additional 10 volunteer respondents.

Socio-demographic characteristics of respondents are contained in Table 1. Data were separated into three subgroups by type of child care arrangement chosen by parents, namely latchkey ("self-care"), sitter at the parents' home ("sitter"), and center-based programs ("center"). The sample of 41 parents consisted of 38 mothers and 3 fathers; the mean age of parent was 34.6 years, all were white and 22 were single parents. Sixteen of the parents had two or more children.

While the nature of the sampling process militates against generalization, some comments can be offered about the choice of child care in the sample based on the data in Table 1. It is noteworthy that parents of male children seemed to have a preference for formal programs, but that parents of female children seemed more likely to prefer a self care arrangement. The education level of parents who preferred sitter arrangements was somewhat lower than that of parents who preferred self-care or formal programs, and lower than the sample average of 13.2 years. City dwellers and professional people were more likely than others to place their children in a formal program, with rural and semi-skilled at the opposite pole. Parents choosing self-care arrangements were more likely to be married and (possibly as a consequence of being two-earner families) have higher incomes than others.

TABLE 1
Sample Demographics

Demographics	Self-Care N=11	Sitter N=16	Center N=14
Age of child (mean years)	8.8	7.7	7.7
Sex of Child			
Male	31%	50%	62%
Female	69%	50%	38%
Education of Parents (yrs)	13.8	10.3	13.8
Parents' Occupational Status			
Un- or semi-skilled	46%	57%	29%
Skilled	23%	21%	14%
Managerial/Professional	31%	21%	57%
Residence			
Rural	54%	39%	15%
Urban	46%	61%	85%
Marital Status: Married	100%	61%	64%
Family Income (N=38)			
Less than $10,000	--	14%	15%
$10,000 to 15,000	9%	--	23%
$15,001 to 20,000	--	7%	15%
$20,001 to 25,000	9%	14%	--
$25,001 to 30,000	36%	21%	7%
$30,001 to 50,000	27%	28%	15%
More than $50,000	18%	14%	23%

RESULTS

Economic factors and child care

Before considering the question of the relative importance of economic factors in child care, it would be of interest to assess the incidence of cost to families of the alternative they actually chose. Table 2 contains a summary of data compiled in response to a sequence of questions on the economics of after-school child care.

Direct monetary cost of formal arrangements averaged $16.07 per week (SD = $14.71). As shown in Table 2, sitter arrangements were on average a little more expensive than center programs with a mean of $17.30 as compared to $15.50. Sitter costs also tended to be more dispersed around the mean. Incidental costs were faced by only 8 respondents, and constituted mainly preparation of meals (sitter group) and fees for special events (center-based programs). Table 2 shows the

TABLE 2
Economic Factors and Choice of After-School Child Care: Responses to Selected Questions.

	Self-Care	Sitter	Center
Mean amount paid each week for current child care arrangement	—	$17.30	$15.50
Number of families who face incidental costs	0	4	4
Number of families involved in driving children to the facility	1	9	11
Number of families that regarded economic factors as the main influence on their child care decision	4	8	3

8 respondents to be split equally between sitter and center-based programs. Finally, 21 parents faced transportation costs. As Table 2 shows, parents using a self-care arrangement tended not to get involved in transportation. Of the 21 parents who incurred transportation costs, 14 did the driving themselves, 3 had a relative do the driving, 1 carpooled, and 3 had their children use transportation provided by a center program. As a proxy for cost of transport, respondents were asked the distance required for a one-way journey. Of 24 usable responses, only 13 had to travel more than a mile, and 11 of these 13 traveled less than 5 miles. The longer distance travel was distributed equally between the sitter and center groups.

The key question relating to the relative importance of economic factors was an open-ended one asking parents what influenced them to choose their present child care arrangement. The items identified as prime factor by parents fell into four general categories, of which two (cost, time and distance involved) were coded economic, and two (quality of program, child factors) were coded as noneconomic. On this classification, economic factors were of prime importance in the child care decision of 15, or 37 percent of the parents sampled: the remaining 63 percent felt that noneconomic factors were of prime importance. The distribution of the 15 parents by type of program is shown in Table 2. Economic factors were more likely to be mentioned by the sitter group than by others.

Parents' sensitivity to economic factors in the choice of after-school child care was pursued further by two sets of questions. The first asked parents to record on a 1 to 5 scale (5 = very important) whether certain items were important in the child care decision. Of 9 items mentioned, monetary cost had the lowest mean score at 3.1. Convenience of location, which captures some of the transportation and incidental costs, was third lowest at 3.7. Noneconomic items, such as educational content and safety, were ranked higher than economic factors in relative importance in the decision.

A second set of questions probed parents' reactions to hypothetical increases in the direct monetary cost of formal child care arrangements. Table 3 summarizes responses to these questions. Questions regarding a hypothetical increase of weekly rates of $5 (approximately a one-third increase over the mean currently being paid) and $10 (two-thirds increase in cost) showed some immediate attrition of sitter parents, but that the vast majority (73%) would maintain their current arrangement. A similar fee increase would have a greater impact on parents in center-based programs; 46 percent of these parents would change their current arrangement. Parents were also asked what was the maximum they would pay for their present arrangement. As shown in Table 3, the mean difference between what parents were prepared to pay and what they actually paid (the affordability gap) was $12.20 for the sitter parents and $10.26 for center-based group. The implication is that many of these parents were within their margin of affordability.

TABLE 3
Sensitivity to cost increases of parents with formal child care arrangements.

	Sitter	Center
Percent of parents who would pay $5 more for the present arrangement	77	86
Percent of parents who would pay $10 more for the present arrangement	73	54
Mean maximum amount parents would pay for the present arrangement	$29.50	$25.76
Affordability gap	$12.20	$10.26

Income considerations

As stated above, family resources are a potential constraint on parents' child care choice. In this study, resources are represented by family income. Respondents were asked to identify their income on an ascending, seven-point scale. The expectation was that economic factors would be more influential in the child care decision the lower was family income.

Table 4 summarizes results of a series of correlations of income with economic factors. The notion that economic cost was relatively more important to families with lower incomes is supported by a negative relationship between income and parents rating of the importance of costs on a five-point scale (5 = very important). The relationship was slightly stronger for latchkey parents that others. For parents using formal care programs (sitter and center-based), there was a direct relationship between the maximum they would pay and income, indicating that lower income families would not be prepared to pay as much as higher income families. As shown in Table 4(b), this relationship was much stronger for the sitter group than for center-based group - the relationship for the center group was not significantly different to zero at normally-accepted levels.

TABLE 4
Pearson Correlation Coefficients for the Relationship between Family Income and Selected Economic Cost Variables.

(a) Importance of cost to the child care decision, on a 1-5 scale (5 = very important).		
Self-Care	r = -.325;	p = .053
Formal care groups	r = -.493;	p = .107
(b) Maximum the family would pay for the current arrangement.		
Sitter	r = .560;	p = .019
Center	r = .216;	p = .255
(c) Size of affordability gap.		
Sitter	r = .378;	p = .091
Center	r = -.394;	p = .091
(d) Cost per week of current child care arrangement.		
Sitter	r = .095;	p = .385
Center	r = .542;	p = .028

A significant positive relationship between income and the difference between the maximum parents would pay and the amount they actually paid (the affordability gap) would suggest that parents on lower incomes had a smaller affordability gap and thus would be more sensitive to flat fee increases than parents on higher incomes. As Table 4(c) shows, this turned out to be the case for the sitter group, but not the center-based program group.

The lack of a significant relationships between income and costs for the center-based group may have been due to the presence of support programs for lower income families. According to Table 4(d), costs of existing arrangements for the center-based groups increased sharply with income. This would be consistent with lower income families receiving support. The cost of sitter arrangements was directly related to income, but the relationship was not significantly different to zero at an acceptable level. This implies that sitter arrangements were regressive in the same sense that sales taxes are regarded as regressive: people were paying about the same for the arrangement regardless of their income level.

Search costs

As in the case of choice of child care facility, economic factors emerge as a consideration in, but not necessarily overridingly important to, parents' decision as to how much information to search when making their child care choice. When asked if they were limited in any way in their ability to look for child care facilities, 22 parents answered in the affirmative, and 13 of these (31 percent of the whole sample) mentioned economic factors (cost, time, transportation) as prime cause. In a follow-up question, respondents were asked to identify specific cost items other than time that might limit their search. Only 5 parents gave an answer and all mentioned gasoline.

For most parents, the time involved in the search process was fairly short. Seventy-four percent reported spending less than an hour, while 25 percent spent less than a day. Nearly a half (46%) of the sample indicated that they received no assistance from other people or institutions in their search for child care: this figure rises to 69 percent for the self-care group.

A quick search on the initial child care decision can be supplemented by continued search after the child has commenced with a specific program of child care. Only 3 parents claimed to have searched for an alternative to their existing child care facility. For this sample of parents, further search after the initial decision was rare.

Noneconomic Factors

As stated above, some 63 percent of respondents claimed that noneconomic factors were of prime importance to their child care decision. In terms of the categories of noneconomic factors identified, child factors were predominant in this, accounting for 35 of the 63 percent. Most of the remainder mentioned program factors: neighborhood factors were not mentioned at all. The child factors focused on children's preferences and characteristics. In a rating of nine program attributes in a subsequent series of questions, safety was regarded as most important to these parents (4.9 on a 5-point scale), followed by the quality of the staff (4.3) and the kinds of activities available (4.2).

Parents varied by current type of arrangement as regards preferences for different noneconomic aspects of after-school care. Center parents rated the importance of planned activities, educational content, and the training and qualifications of staff higher than did other parents. Parents using sitter arrangements rated the importance of their child's friends being involved in an after-school arrangement than did parents using the other two arrangement types. There were no differences across the three groups with regard to neighborhood factors and child care factors.

DISCUSSION

The main aim of this paper was to explore the relative influence of economic aspects of after-school child care in parents' choice of child care facilities. To this end, a structure was proposed for the child care choice decision, and applied to a sample of working parents. The structure was broad enough to handle multiple dimensions both of decision variables and child care facilities. Results were of limited generalization due to the nature and size of the sample, but of sufficient interest as an exploratory study to warrant some attention.

Economic factors were important, but not overwhelmingly so, to these parents' choice of after-school care. Economic factors were mentioned as the prime influence on choice of less than half of the sample, and cost of care was ranked lowest of nine attributes of facilities in importance to the decision. There was some evidence that economic factors were more significant to lower income families. Costs mattered relatively more to parents on lower incomes, and the maximum parents were willing to pay was lower for parents with lower incomes. Economic factors were mentioned as a prime constraint to the search process by about a third of the sample.

While a detailed discussion of noneconomic factors was not the main agenda for this paper, it did emerge that these parents regarded what were defined as child factors and program factors as important to their decision, but took little account of neighborhood factors. In addition to the quantitative data reported above, the interviews yielded a good deal of anecdotal information about a program being used or not according to a child's wishes and preferences. If this were typical of parents in general, the implication would be that program people and agency support groups who aim their marketing efforts solely at parents may well have to restructure their materials to appeal to children also.

Analysis of results was limited by small sample considerations, but the results were systematic enough to suggest that extension of the instrument (the model and its associated questionnaire) to a larger, random sample would be fruitful. With larger sample returns, estimation of demand functions combining the economic and noneconomic factors would be possible, with search factors entering recursively. Results would be of interest to policymakers, in that, by highlighting the key choice variables in after-school child care facilities, they would provide insight into why the self-care arrangement continues to thrive, and which alternatives may or may not be successful. A large scale study would also allow questions to be pursued which have only been marginally touched on here and in the literature, particularly the question of differences between choice patterns of rural and urban dwellers [18].

The search phenomenon warrants additional attention in its own right. The small amount of time and monetary resources invested in the search by parents sampled was striking, especially since almost half of parents received no outside help in their search, and few did any subsequent searching. It is hard to imagine that parents were able to find the best arrangement for their child with so little a search, even in such a modestly-sized city. That this is so may be attested to by the fact that one highly-regarded program in the city, which was priced well within the maximum parents were prepared to pay for their current arrangements, was drastically underused. While search costs are seen as the first stage in a recursive decision-making structure, estimates of impact of search on the child-care choice might be worthy of analysis in their own right.

REFERENCES

1. Becker, G.S. A Treatise on the Family, Harvard University Press, Cambridge MASS, 1981. Chapter 6.

2. Behan, R. A. "Should Johnny or Janet Sit Themselves?" PTA Today, 10(6), April 1985, pp. 27-8.

3. Campbell, L.P. and A.E. Flake, "Latchkey Children: What is the Answer?" Clearing House, 58(9), May 1985, pp. 381-3.

4. Fosarelli, P.D. Children Left Alone: Latchkey Problems, Future Research Questions and Interventions. Paper Presented to the Annual Conference of the National Education Association, Washington D.C., Feb 1985.

5. Friedman, D.E. "Taking Care of the Kids: The Corporate Role in Providing Child Care." PTA Today, 10(6), April 1985, pp. 11-13.

6. Galambos, N.L. and J. Garbarino, Identifying the Missing Links in the Study of Latchkey Children. Paper Presented to the Annual Meeting of the American Psychological Association, Washington D.C., August 1982.

7. Garbarino, J. "Latchkey Children: How Much of a Problem?" Education Digest, 46(6), Feb 1981, pp. 14-6.

8. Goddard, A. and C. Smith, Do Childminders Care? National Childminders Association, Bromley, U.K., 1981.

9. Hall, J.M., "Latchkey Children: Is Anybody Home?" Illinois Teacher of Home Economics, 28(3), Jan-Feb 1985, pp. 117-9.

10. Kuchak, J. School-Age Day Care Study: Final Report. Applied Sciences Inc., Silver Springs, MD, 1983.

11. Long, L. and T. Long, The Handbook for Latchkey Children and their Parents: A Complete Guide for Latchkey Kids and their Working Parents, Arbor House Publishing Co., New York, 1983.

12. McMurray, G.L. and D.P. Kazanjian Day Care and the Working Poor: The Struggle for Self-Sufficiency, Community Service Society of New York, New York, 1982.

13. McNairy, M.R. "School-Age Child Care: Program and Policy Issues", Educational Horizons, 62(2), Winter 1984, pp. 64-7.

14. Merrow, J. "Viewpoint: Self-Care", Young Children, 40(5), July 1985, p. 8.

15. Mills, B.C. and E. Cooke,"Extended Day programs: A Place for the Latchkey Kid", *Early Childhood Development and Care*, 12(2), Sept. 1983, pp. 143-51.

16. Minneapolis Interagency Child Care Work Group, *Improving the Child Care Delivery System in Minneapolis*, Minneapolis, Minnesota, Jan 1981.

17. More, J.C., *Parent Choice of Day Care Services A Statistical Study of the Amount and Type of Care Used*. Ph.D. Dissertation, Catholic University of America, 1980.

18. Olsen, G.W. *Rural and Urban Differences in Day Care*, Masters Thesis, University of Wisconsin-Madison, 1977.

19. Owens, B.L. "Marketing a Proprietary Child Care System." *Journal of Children in Contemporary Society*, 17(2), Winter 1984, pp. 91-107.

20. Pecoraro, A., "What Home Economists Should Know about Latchkey Children", *Journal of Home Economics*, 76(4), Winter 1984, pp. 20-2.

21. Perry, K.S., *Child Care Centers Sponsored by Employers and Labor Unions in the United States*, Women's Bureau, Dept. of Labor, Washington D.C. 1980.

22. Powell, D.R. and J.W. Eisenstadt, "Parents' Searchhes for Child Care and the Design of Information Services", *Children and Youth Services Review*, 4, 1982, pp. 239-53.

23. Powell, D.R. and J.W. Eisenstadt, "Predictors of Help-Seeking in an Urban Setting: The Search for Child Care", *American Journal of Community Psychology*, 11(4), 1983, pp. 401-21.

24. Robinson, V.M., "5,000,000 Latchkey Children", *PTA Today*, 8(7), May 1983, pp. 13-5.

25. Rodes, T.W., *National Childcare Consumer Study 1975, Volume III: American Consumer Attitudes and Opinions on Child Care.*, Unco inc., Washington D.C., 1975.

26. Rooney, T. *Whi Is Watching Our Children? The Latchkey Child Phenomenon*, Senate Office of Research, California State Legislature, Sacramento CA, 1983.

27. Rothman, S.L., "Latchkey Children: A Bibliography", *Education Libraries*, 10(1), Winter 1985, pp. 12-6.

28. Rothschild, M.S. *Public School Center vs. Family Home Day Care: Single Parents' Reasons for Selection.* Masters Thesis, San Diego State University, 1978.

29. Rubin, V. and E.A. Medrich, "Child Care, recreation and the Fiscal Crisis", *Urban and Social Change Review*, 12(1), Winter 1979, pp. 22-8.

30. Scofield, R.T. and A.C. Page, "After-School Child Care and the Public Schools", *Tennessee Education*, 13(1), Spring 1983, pp. 40-7.

31. Strother, D.B., "Latchkey Children: The Fastest-Growing Special Interest Grouip in the Schools", *Phi Delta Kappan*, 66(4), Dec 1984, pp. 290-3.

32. Stroman, S. and R. E. Duff, "The Latchkey Child: Whose Responsibility?" *Childhood Education* 59(2), Nov-Dec 1982, pp. 76-9.

33. Turner, P.H. and R.M. Smith, "Single Parents and day Care." *Family Relations*, 32(2), April 1983, pp. 215-26.

34. Zigler, E. and S. Hunsinger, "Day Care Policy: Some Modest Proposals." *Day Care and Early Education*, 4(5), May-June 1977, pp. 9-11.

FOOD SAFETY INFORMATION AND REGULATION: ARE THESE SUBSTITUTES OR COMPLEMENTS?

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ABSTRACT

Consumer attitudes, knowledge and practices regarding food safety, information and the role of government in food safety assurance were explored in a survey of Kansas consumers reported here. Consumers indicated strong support and a willingness to pay for food safety label information along with support for continuance of governmental regulatory activities.

INTRODUCTION

Safe food supplies are an important goal of U.S. consumers. As the U.S. food system continues to increase in commercialization and complexity, consumers rely less on their own devices to ensure the safety of foods and more on others. The government does many things to assure the safety of the food supply including establishing laws and regulations and providing consumer information. Economists have traditionally favored information to rectify market imperfections while encouraging choice. At the same time, regulation is extensively used in the food safety system, in many cases mandated by law. Food safety regulators and the food industry experience uncertainty about consumer preferences for food safety since they are not explicitly expressed in the market. This paper presents some results of a consumer survey in which attitudes, preferences, and knowledge about food safety and government roles in food safety assurance were explored. One summary observation is that while consumers indicate preference for food safety choice in the market, on the whole they appear to wish to exercise that choice among fundamentally safe products. Consumers express preferences for a strong regulatory role for government.

Food safety is a relative rather than an absolute concept and it has economic dimensions. Some food safety hazards present high risks to many while others vary broadly across individuals. Frequently, different individuals make varying judgements about the acceptability of risk as well as the amounts they would be willing to pay as a consumer or as a taxpayer to assure a given level of safety.

Two departures from the perfectly competitive market have led to governmental involvement in food safety assurance: information imperfections and external effects. Not only may market participants not know the safety of their purchase (imperfect information) but, consumption of an unsafe product may result in costs to the consumer and others not included in the economic calculus of the producer.

Improved food safety may be accomplished in different ways using various policy tools. These include setting product standards, product inspection, setting manufacturing process standards and plant inspection, providing information and pecuniary measures[3] (Kramer, 1982). Fundamental food safety policy questions at any point in time concern the minimum levels of safety tolerable in the market, the combination of means used to assure them, the methods by which informed consumer choice in the marketplace can be optimized, and finally, methods by which food safety externalities can be minimized.

FOOD SAFETY RISKS

The Food and Drug Administration (FDA) ranking of food safety hazards in descending order of public health importance was stated around the mid-seventies and has remained substantially the same: 1) microbiological contaminants; 2) malnutrition; 3) environmental contaminants; 4) toxic natural constituents of foods; 5) pesticides; 6) food additives (Schmid, Wodicka).

Prioritizing public health hazards is clouded by numerous uncertainties including severity of effect, extent of exposure, exposure of vulnerable groups, rapidity of onset of symptoms (Lowrance). However, the categories and general ranking by food safety experts are substantially stable and provided one construct upon which the consumer survey was constructed.

KANSAS CONSUMER PERCEPTIONS OF FOOD SAFETY AND GOVERNMENT POLICY CHOICES

This section presents selected results of a 1983 survey of Kansas consumers, the sample chosen to be representative in important respects of the adult, non-institutional Kansas population. Survey objectives were to seek understanding of consumer attitudes about food safety, governmental roles in food safety assurance, and various forms and sources of food safety information. The perceived impacts of common chemical technologies on abundance, cost and safety of food were also explored but will not be reported here. Questions about meat products were emphasized. Description of survey methodology and sample characteristics is contained in Appendix 1 (see preliminary report of this research Penner, Kramer and Frantz, 1985).

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[3] By pecuniary measures we refer to taxes, subsidies, fines or awards under the tort system.

General Government Role

Several items asked consumers about the proper role of government in food safety assurance. Survey question 3 asked for degrees of agreement or disagreement with the five statements shown in Table 1. In general, consumers confirmed their support for government placing high priority on food safety assurance (89.8 percent) and working to eliminate all risk from the food supply (63 percent). Only 27.2 percent of respondents agreed or strongly agreed that the government should not try to eliminate all risk from the food supply. Over two-thirds of consumers responding were absolutist in their views of carcinogens; 70.5 percent agreed or strongly agreed "the government should not permit any cancer-causing chemicals in foods." Eighty percent of consumers questioned indicated that the federal government should require health risk information on food labels to let consumers choose. Finally, a majority (56 percent) of respondents felt that the food industry could not be relied on to produce safe food products on its own, while nearly a quarter (23.7 percent) were unsure. Chi-square analysis of differences in patterns of response to these questions by socioeconomic characteristics demonstrated some age differences: those 56 and over were more likely to agree that the government should not try to eliminate all risk, while the converse was true for those aged 27-37. The youngest group of respondents (age 19-28 years) was less absolutist with respect to banning carcinogens from the food supply than expected. Consumers were asked how they evaluated relative government safety priorities comparing government involvement in food safety with: environmental safety; auto safety; consumer product safety; and occupational safety (Table 2). Analysis indicated that consumers as a whole evaluate food safety and environmental safety efforts relatively equally and slightly more important than consumer product safety and occupational safety. Men were more likely than women to discount the importance of consumer product safety and job safety involvement of government.

Table 1: Question 3 "How much do you agree or disagree, if at all, with the following statements about the Federal government's role in keeping the food supply safe?"

Response	a. Keeping food safe should be a high government priority		b. The government should not try to eliminate all health risk from the food supply		c. The government should not permit any cancer-causing chemicals in foods		d. The government should require health risk information on food labels and let consumers choose		e. I think food producers and manufacturers can be relied on for safe food products	
	no.	%	no.	%	no.	%	no.	%	no.	&
strongly disagree	6	1.5	112	28.2	11	2.8	12	3.0	81	20.0
disagree	12	3.0	139	35.0	46	11.5	30	7.5	143	36.0
not sure	23	5.7	38	9.6	61	15.2	36	9.0	94	23.7
agree	195	48.5	89	22.4	120	30.0	176	43.9	62	15.6
strongly agree	166	41.3	19	4.8	162	40.5	147	36.7	17	4.3
Total	402	100.0	397	100.0	400	100.0	401	100.1*	397	100.0

Table 2: How would you compare the importance of governmental involvement in food safety compared to other areas of safety?

	less important		just as important		more important		Totals	
	no.	%	no.	%	no.	%	no.	%
auto safety is	94	23.5	278	69.5	28	7.0	400	100
consumer product safety is	98	24.4	273	68.1	30	7.5	401	100
environmental safety is	51	12.7	284	70.8	66	16.5	401	100
occupational safety is	100	27.5	258	64.5	32	8	400	100

Consumer Assessments of Hazards

Respondents were presented with items from the Food and Drug Administration list of food safety hazards excepting malnutrition and toxic natural constituents of foods but including animal drug residues, and asked to rank them in the order of their own concern. Consumers indicated highest concern about environmental contaminants ("such as mercury, PCBs, and dioxin"). Microorganisms top the expert's list. Consumers did rank disease-causing organisms and parasites second in order of concern. Third they ranked pesticides, described as "chemicals used to kill insects, other pests." Experts ranked pesticides next to last in terms of food safety concern. Kansas consumers ranked "residues of animal drugs or hormones in meat," and "food additives" fourth and fifth, respectively, to complete their list of food safety concerns.

When asked to rank food groups in order of food safety concern, consumers identified perishable protein products: red meats, poultry, and dairy; first, second, and third, respectively. Intermediate were fruits and vegetables and fats and oils. Of least concern were dried staples such as flour, rice, beans, and pasta; and sugars, syrups and sweeteners.

Consumers were asked to identify the stage in the meat products production and distribution chain where they felt food safety problems were most likely to occur. They ranked the food processing plant as most problematic, followed by livestock feedlots. The feed manufacturing plant and the warehouse were ranked next. The farm and the home were ranked as least problematic. Grocery stores and restaurants were intermediate at ranks of fifth and sixth. This ranking is interesting in several respects. One obvious discrepancy is the low ranking given the home, the restaurant, and the grocery store in light of the experts' assessment of microbiological contamination as the number one food safety public health problem. Many microbiological problems result or are exacerbated by time or temperature abuse of foods that occurs in restaurants, homes and grocery stores. In a sense, the final preparation site is also the final line of protection against health problems from microbiological contamination in those many cases where organisms can be killed by proper cooking. In several questions related to home food handling under diverse conditions, respondents indicated lack of knowledge of safe handling practices (Penner, Kramer, Frantz). One third of respondents agreed or didn't know whether to agree with the statement: "Meats and poultry products bought at a grocery store do not contain bacteria or other microorganisms." Age groups differed in their responses with the youngest and oldest groups more likely to erroneously agree.

When asked whether they had ever not bought meat products due to food safety concerns, over one-half of respondents answered affirmatively. Highest frequencies of reasons for non-purchase were: too much fat (66.8 percent) and untidy meat departments (63.8 percent). About 48 percent stated that colors or chemical ingredients were reasons.

When consumers were asked to identify kinds of information if any they would like to see on meat labels, the highest frequency of response was "guaranteed free of traces of animal drugs, hormones" (69.3 percent) followed by "guaranteed free of traces of other chemicals" (67.4 percent). The third most frequent response was "additives." "Nutrient content" was fourth; and cooking and handling information was fifth. Surprisingly, "cholesterol content" ranked next to lowest (sixth) as a label concern. Significant differences existed between response patterns of different age groups, and by sex. Nutrient content on labels was preferred by 56.9 percent of the youngest group (ages 19-28) but only 35.1 percent of those 56 or older. Women were considerably more supportive of label guarantees of "drug-" and "chemical-free meat" than men.

When asked in qualitative terms how much they would be willing to pay for desired food safety information on meat labels, the modal response (67.4 percent) was "I would pay slightly more." While 26.9 percent said they would not pay more. In quantitative terms, more consumers stated they would pay from 1-3 cents per pound of beef to have desired safety information on labels than any other amount. Subsequent analysis using simple and multiple correlation techniques shows differences in willingness-to-pay by socioeconomic characteristics (Penner, Kramer, Frantz; Pope).

Consumer Assessments of Government Food Safety Activities and Food Safety Information

Consumers were asked to evaluate thirteen food safety activities the government now undertakes (Table 3). Inspection activities, especially of meat, poultry and dairy products, were rated as extremely important. Ninety-two percent, 96.7 percent and 88.5 percent of respondents indicated high or moderate support for inspection of livestock and poultry at slaughter for animal drug and chemical residues; disease; and inspection of milk and dairy products. Respondents had less support for research, particularly university research. Label requirements for food safety information were supported by 85 percent while education on food handling was supported by 75 percent and more by women than men.

Table 3: Please indicate how important, if at all, you think the following government food safety activities are?

Government activity to . . .		Importance					Total
		None	Slight	Some	Moderate	High	
a. provide money to universities for research on food safety	no.	11	28	106	127	116	388
	%	2.8	7.2	27.3	32.7	29.9	99.9
b. conduct research on food safety	no.	8	19	73	143	148	391
	%	2.0	4.9	18.7	36.6	37.8	100.0
c. require safety information on food labels	no.	4	8	46	82	249	389
	%	1.0	2.1	11.8	21.1	64.0	100.0
d. inspect livestock and poultry at slaughter for traces of chemicals or animal drugs	no.	2	5	24	77	289	397
	%	0.5	1.3	6.0	19.4	72.8	100.0
e. inspect livestock and poultry at slaughter for disease	no.	2	1	10	58	328	399
	%	0.5	0.3	2.5	14.5	82.2	100.0
f. inspect fruits and vegetables	no.	4	14	54	175	149	396
	%	1.0	3.5	13.6	44.2	37.6	99.9
g. inspect milk and dairy products	no.	2	2	32	113	240	389
	%	0.5	0.5	10.5	28.3	60.2	100.0
h. inspect grain and grain products	no.	3	17	69	168	139	396
	%	0.8	4.3	17.4	42.4	35.1	100.0
i. certify safety of food additives	no.	4	5	42	122	222	395
	%	1.0	1.3	10.6	30.9	56.2	100.0
j. certify safety of animal drugs	no.	3	7	40	104	243	397
	%	0.8	1.8	10.1	26.2	61.2	100.0
k. certify safety of pesticides	no.	2	3	3.5	8.2	268	390
	%	0.5	0.8	9.0	21.0	68.7	100.0
l. test for environmental contaminants in food	no.	2	4	38	106	247	397
	%	0.5	1.0	9.6	26.7	52.2	100.0
m. educate people to prepare and store food safely	no.	11	25	63	127	172	398
	%	2.8	6.3	15.8	31.9	43.2	100.0

Food Safety Information Sources

Consumers were asked to identify most common sources of food safety information regarding different food safety perils (Table 4). Interestingly, the most frequent reponse regarding information sources concerning animal drugs or hormones and pesticides was "I don't receive this information" followed by "Government." Among seven listed possible sources, both university and the county extension service ranked extremely or relatively low as an identified source of information for food additives, animal drugs, food exposed to environmental contaminants. The government ranked high as an identified source. General expressions of degree of confidence by information source were solicited. Responses indicated extension agents were rated higher than any other listed source (68.3 percent rated high or a lot of confidence), followed by University professors (38.1 percent) and "consumer spokesperson" (36.8 percent). Ranked fourth were "family or friend" (31.2 percent). Government ranked a weak fifth (21.6 percent) followed only by "popular media personality" (14 percent) and "food product spokesperson" (12.9 percent) (Table 5).

Table 4: Question 32. "Public information about food safety can come from many sources. For each of the types of food safety information listed, mark the one main source from which you are likely to receive information.

Source	Type of food safety information							
	food additives		animal drugs or hormones used in livestock		pesticides used to kill insects or other pests on or near foods		food exposed to environmental contaminants (lead, mercury, dioxin)	
	rank	%	rank	%	rank	%	rank	%
government	1	34.1	2	25.4	2	20.1	1	32.9
university	8	2.4	5	8.6	7	6.5	8	1.5
county extension agent or home economist	7	3.8	6	7.4	3	14.5	6	4.2
food industry or company	2	19.4	8	3.6	8	2.9	7	3.3
consumer group	4	11.8	4	8.9	5	9.2	4	9.5
popular media personality	5	7.9	3	10.9	4	13.3	3	19.0
family or friend	9	1.2	9	1.8	9	1.5	9	0.0
source not listed above	6	6.5	7	7.1	6	7.7	5	7.1
I don't receive this information	3	12.9	1	26.3	1	24.3	2	22.5
Total	n=340	100.0	n=338	100.0	n=338	100.0	n=337	100.0

Source	Type of food safety information (continued)									
	food preservation (canning, freezing drying)		cooking and handling of meat and poultry		shelf storage of canned foods		refrigerator storage of meats and poultry products		federal and state role in food safety	
	rank	%	rank	%	rank	%	rank	%	rank	%
government	6	4.7	6	4.7	7	4.5	6	4.8	13	8.5
university	8	2.6	8	3.5	8	3.3	8	2.1	5	5.2
county extension agent or home economist	1	49.6	1	33.9	1	26.8	1	32.3	6	4.2
food industry or company	4	6.4	4	8.6	3	15.7	5	10.1	9	0.0
consumer group	7	3.3	7	4.1	6	6.5	7	3.9	6	4.2
popular media personality	9	2.0	9	2.7	9	2.1	9	1.8	3	10.9
family or friend	3	11.7	2	20.0	4	12.8	2	17.1	8	0.3
source not listed above	5	5.9	4	8.6	5	6.8	4	10.8	4	5.5
I don't receive this information	2	13.8	3	13.9	2	21.4	2	17.1	2	31.2
Total	n=341	100.0	n=339	100.0	n=336	99.9	n=334	100.0	n=330	100.0

Table 5: "How much confidence do you have in food safety information you receive from the sources listed below?"

Source		Level of Confidence					
		none	little	some	a lot	high	total
a. government spokesperson	no.	22	84	192	65	17	380
	%	5.8	22.1	50.5	17.1	4.5	100.0
b. university professor	no.	23	37	169	105	36	370
	%	6.2	10.0	45.7	28.4	9.7	100.0
c. county extension agent or home economist	no.	6	20	93	181	75	375
	%	1.6	5.3	24.8	48.3	20.0	100.0
d. food product spokesperson	no.	42	104	179	42	6	373
	%	11.3	27.9	48.0	11.3	1.6	100.1
e. consumer spokesperson	no.	21	48	167	113	23	372
	%	5.6	12.9	44.9	30.4	6.2	100.0
f. popular media personality	no.	52	92	176	48	4	372
	%	14.0	24.7	47.3	12.9	1.1	100.0
g. family or friend	no.	17	64	177	90	27	375
	%	4.5	17.1	47.2	24.0	7.2	100.0

Media transmitting food safety information were ranked for convenience. Highest marks from consumers for convenience in receiving food safety information were: 1) food labels; 2) newspaper; 3) T.V. Intermediate were: 4) radio; 5) newsletter; 6) magazine. Lowest ranks went to 7) fact sheets or bulletins; 8) consumer hotlines; 9) educational meeting. Lower educational levels were associated with higher rankings of T.V. as convenient. These results confirm the wisdom of moving away from traditional Cooperative Extension delivery mechanisms such as educational meetings and even raise questions about fact sheets and bulletins.

POLICY RAMIFICATIONS, RESEARCH NEEDS

What are the policy ramifications of surveys of consumers regarding their food safety attitudes, preferences and knowledge? In general, consumers indicate strong support for a high priority government commitment to the safety of the food supply and involvement in a variety of food safety activities. Activities most strongly supported as very important were inspection of livestock and poultry at slaughter for disease and animal drug/chemical residues; and inspection of dairy products. Consumers therefore indicate strong implicit support for enforcement of product standards setting safety levels.

Consumers do indicate strong support in the abstract for safety information on labels. The types of information considered most important varied by socioeconomic characteristics in some cases. Women expressed highest desires to see meat labels guarantee that meat is free of animal drug and other "chemical" residues. Note that this desire is not for risk-benefit information per se, but for certification beyond what consumers now perceive the government does. Consumers do not express strong confidence in government information although government appears to be the major source of many types of safety information (animal drugs, additives, environmental contaminants) when consumers receive information at all. Cooperative extension was rated highly in terms of confidence, but was not perceived as a source of most kinds of food safety information. To the extent that extension can be a more visible supplier of various types of food safety information, consumers appear accepting of its credibility.

Although labels are rated highly by consumers in terms of convenience, much more research remains to be done on the appropriate uses of labels to transmit food safety information. Label information has been categorized in a number of ways: warnings; ingredients; use instructions; risk-benefit information; safety certification. Research on consumer information processing indicates, among other things, that consumers differentially use information, that attribution of behavior change to label information is extremely difficult, that labeling effectiveness may wane if consumers experience "information overload," that consumers may not know what to do with label information indicating ingredients, risk-benefit information, or warnings. Some evidence suggests that consumers will be more effective users of label information if they have the human capital (in economic terms) in the form of an internalized framework to use it. As an example, ingredient or nutrient composition information on labels may be more effective if consumers have some underlying framework for interpreting and integrating label information. This is an area that needs substantial research.

REFERENCES

Cooper, Richard M., "A Time To Warn and A Time To Ban," Product Labeling and Health Risks. Banbury Report 6. Cold Spring Harbor Laboratory, 1980.

Kramer, Carol S. "An Economic Analysis of Food Safety Regulation: The Case of Sulfa and the Swine Subsector." Unpublished Ph.D. dissertation, Michigan State University, East Lansing, Michigan, 1982.

Kramer, Carol S. "Food Safety Policy Analysis: Analytical Methods," Proceedings of the American Council on Consumer Interests: 1986. St. Louis: American Council on Consumer Interest.

Lowrance, William W. Of Acceptable Risk: Science and the Determination of Safety. Los Altos, CA: Wm. Kaufman, 1976.

Mazis, Michael B. "An Overview of Product Labeling and Health Risks," Product Labeling and Health Risks, Banbury Report 6, Cold Springs Harbor, 1980.

Murphy, R. Dennis, "Consumer Responses to Cigarette Health Warnings," Product Labeling and Health Risks, Banbury Report 6, Cold Springs Harbor, 1980.

Penner, Karen P.; Carol S. Kramer; Gary Lee Frantz. Consumer Food Safety Perceptions: A Survey of Consumers in Eight Kansas Counties. Manhattan, Kansas: Kansas State University Cooperative Extension Service, 1985.

Pope, Rulon. "The Kansas Food Safety Survey: An Empirical Analysis." Draft report prepared for the Economic Research Service, U. S. Department of Agriculture, 1985. Unpublished.

Schultz, William B. "Labels, Bans, and Consumer Preferences," Product Labeling and Health Risks. Banbury Report 6, Cold Springs Harbor, 1980.

Schwartz, Steven P. "Consumer Attitudes toward Product Labeling," Product Labeling and Health Risks, Banbury Report 6, Cold Springs Harbor, 1980.

Staelin, Richard. "Appliance Performance Labeling and Point of Purchase Information: The Results of Three Experiments," Product Labeling and Health Risks, Banbury Report 6, Cold Springs Harbor, 1980.

Stokes, Raymond C. "Consumer Research On Food Label Information," Product Labeling and Health Risks, Banbury Report 6, Cold Springs Harbor, 1980.

Wodicka, Virgil, "Prioritizing Risks Associated with the Food Supply," The American Food Supply: Are We At Risk? ICET Symposium II, Cornell University, 1985.

Zellner, James. "Information Remedies: Can They Be Effective?" U. of Fla. Draft, May, 1986. Unpublished.

APPENDIX 1: SAMPLING METHODOLOGY AND SAMPLE CHARACTERISTICS

The Kansas Consumer Survey was conducted in the summer of 1983. Sample design involved initial selection of eight counties from a total of 105 in Kansas, balanced with respect to geographical variation, population density, urban-ruralness.

A sampling frame of 255,164 household names, addresses, and telephones from the eight counties was purchased from the Aetna List Company of Chicago. The list was reduced twice by random selection but maintaining the relative proportionality ofindividual county to state population, first to 10,000 households, then to a final sample of 2,003 households chosen to achieve a final sample size of N=1,100 households plus allow for pre-testing of the questionnaire and for replacements to replace non-deliverable (incorrect) addresses. To obtain the final mail survey sample, the proportional size of the eight counties was multiplied times 1,100 (the sample size) to obtain county sample sizes: Johnson, 380; Franklin, 30; Greenwood, 15; Sedgwick, 500; Saline, 80; Barton, 50; Finney, 30; Thomas, 15.

Survey purpose was stated: "The survey is designed to specifically measure knowledge, attitudes, and practices of Kansas consumers with respect to the overall safety of the food supply and the relative safety of beef products. Consumer perceptions regarding the use of chemicals and the role of government will be emphasized."

Sixty-one questions were constructed and pretested by 22 professionals and 100 consumers in the eight sample counties leading to revisions in the survey instrument. Surveys were mailed with a second mailing two weeks later. A telephone follow-up followed the second survey mailing and attempted to reach 103 households of which 35 resulted in positive commitments; 25 in negative and 43 in failure to contact. Reminder postcards were then employed. The survey was ended approximately 6 weeks later with a final response rate of 36.64 percent of the N=1,100 instruments returned.

The sample included men (40 percent) and women (60 percent). Percentages of questionnaires from the eight counties were similar to the survey total. Johnson and Sedgwick counties are urban-centered and contained 75 percent of all survey respondents. Only 8 out of 403 respondents were considered farm families. Annual household incomes of respondents were higher than the general Kansas population as were educational levels and female-headed households, controlling for educational levels, were lower-income than male-headed households. Whereas 27 percent of state households reported annual incomes higher than $25,000 in the survey year, 51 percent of sample respondent households fell in this range. About two-thirds (67.4 percent) of respondents had formal education past high school, higher than Kansas in general. Educational attainment levels were highest among respondents under 55 years. Those in age groups 29-37 and 38-55 had most advanced degree work.

The age distribution was ages 19-28 (32.2 percent); 38-55 (35.9 percent); 56 and older (35.9 percent). Some differences in the age distribution of different counties were noted with the large, urban Johnson county providing more middle-age respondents. Employment status of respondents differed by gender, age and educational attainment. Male respondents reported full time employment almost twice as frequently as female respondents (72 and 38 percent). Female respondents reported part time and no employment outside the home more frequently. With respect to children, 44 percent of responding households had children living at home: 48 percent of those with children reporting two children. No significant differences were found comparing respondents with and without children or between parents with children of different age categories.

Summarizing, survey respondents were primarily urban, more affluent and more educated than the general Kansas population. However, the sample was much more representative of the food eating public by gender than many surveys seeking information from the food preparer or homemaker.

CONSUMER BELIEFS ABOUT, ATTITUDES TOWARD AND INTENTIONS TO PURCHASE FIRE RESISTANT PRODUCTS[1]

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ABSTRACT

The intentions of 500 Canadian consumers to purchase fire resistant upholstered furniture were measured. Following the Fishbein-Ajzen model, beliefs, attitudes and referent influences were measured as possible determinants of purchase intentions. Respondents' attitudes and intentions were positive but they believed a fire resistant product would cost more. Influential referents included consumer groups and the respondent's spouse.

The research described here addresses a problem of considerable social significance, that is consumers' beliefs about and attitudes toward the property of fire resistance in upholstered furniture and their intentions to purchase such fire resistant products for their home. Each year many people are killed and injured and property losses incurred in household fires. Flammable furnishings are frequently involved in the start or spread of the fire. The costs to individuals, their families and society can be great, measured in terms of property damage, human suffering and costs of treatment.

Responses to this problem include introduction of mandatory safety standards by government, manufacturers' voluntary compliance with standards often accompanied by informative labelling of products, and educational programs aimed at fostering responsible product selection. This is especially important in Canada at present. The Canadian Council of Furniture Manufacturers has recently decided to adopt a voluntary program similar to the UFAC (Upholstered Furniture Action Council) program of voluntary compliance in the United States. Much of this response, however, has taken place without detailed knowledge of consumer beliefs about and attitudes toward textile flammability and its regulation in the marketplace, and the effect of these variables on purchase intentions and behavior. This information would have application in the design of complementary and effective legislative and educational solutions to the problems caused by textile fires.

While earlier studies have examined consumers' attitudes to flammability and their behavior, the results are equivocal. Laughlin [13] and Laughlin and Buddin [14] found many consumers favored extending flame retardance regulations from children's sleepwear to other textile products.

Wall and Gallagher [20] found a lack of congruence between stated attitudes toward children's flame retardant sleepwear and their actual preferences and behavior. Unwillingness to make trade-offs in product selections may account for this. Burnett [5] found an unwillingness to trade off price, ease of care and durability for flame retardance in apparel, and Rucker et al. [18] drew similar conclusions in a study of unwillingness to pay more for flame retardance in furnishings. Crown and Brown [6] found that flame retardance had a high utility relative to other product attributes such as ease of care and comfort but noted that consumers appear to believe, mistakenly, that flame retardance is nonvariant in textile products. However, while consumers would make trade-offs among these attributes they were, in some cases, only willing to do so under certain conditions [4]. In an experimental study where consumers were asked to select an upholstery fabric, relatively few chose a flame retardant fabric, even when consumer education had taken place and relevant product information was provided [7].

These results are somewhat incongruent. Positive attitudes toward fire resistant products may not lead to their purchase. Unwillingness to make trade-offs, erroneous beliefs about fire resistance in products, lack of perceived norms of behavior and/or lack of motivation to comply with norms could all contribute to lack of attitude-behavior congruence.

The Fishbein-Ajzen model of behavioral intentions [1, 10] integrates information about each of these variables and forms the conceptual framework for this study.

ATTITUDE AND BEHAVIOR

The study of attitude and its relationship to behavior has a long, contentious history. During the 1970s and 1980s there has been clarification of both conceptual definitions and variable interactions. While several models have been tested, the Fishbein-Ajzen model has received much attention in psychology and applied fields like consumer studies [10].

The model may be represented as:

$$B \sim BI = A_{act(w_1)} + SN_{(w_2)}$$

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[1] Support for this research from the Social Sciences and Humanities Research Council of Canada is gratefully acknowledged.

[2] Professor and Dean, Faculty of Human Ecology.

[3] Professor, Faculty of Home Economics.

[4] Project Coordinator, Centre on Aging.

Briefly, it proposes that behavior (B) is the outcome of behavioral intention (BI) which has two determinants - attitude toward the behavior (A_{act}) and subjective norm (SN), which have empirically determined weights. Attitude is "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" [10, p. 6]; subjective norm is the individual's perception that important referent individuals or groups would want her/him to behave in a certain way. Attitude is, in turn, determined by cognitive structure, that is beliefs about the consequences of behavior and an evaluation of those consequences; subjective norm is determined by normative structure, that is the individual's perception of how referents would want him/her to behave and the motivation to do so.

The model has been applied in studies as varied as voting behavior [11, 3]; use of non-prescription drugs [17]; use of alcohol [2]; product or service choice behavior [21, 19]; simulations of product choice behavior [15, 16]; and energy consumption behavior [9]. Zanna, Higgins and Herman [22] have provided a recent review of the state of the art.

Many issues which have been examined, however, have two quite clear sides, often of a contentious nature, such as political candidacies, use of drugs or alcohol, use of nuclear power and so on. Other studies have looked at product choices among competing alternatives where preferences are part of daily life and consumption patterns. The model has received relatively little application in studies where behavior may be less variable.

In this study the behavior of interest, home safety, is undeniably important, but may be a "motherhood" issue. Everyone may have a positive attitude to safety but may do nothing about it. Earlier work by the authors suggested that consumers may not be aware of product alternatives, make erroneous assumptions about fire resistance as a product attribute or simply take it for granted. By examining how beliefs about behavioral consequences and evaluations of those consequences plus how normative beliefs affect behavioral intentions and ultimately behavior, the research was designed to elucidate the attitude-behavior relationship in this little investigated context of product safety. The focus of this paper is a descriptive analysis of the constructs in the model. Structural analyses of the relationships will be reported elsewhere.

OBJECTIVES

The objectives of that portion of the research reported here were:

1. To measure and describe consumers' cognitive structures and attitudes toward purchasing products which are fire resistant.
2. To measure and describe normative structures and subjective norms for these products.
3. To measure intentions to purchase fire resistant products.
4. To measure the effect of consumer demographics and other characteristics on these variables.

METHOD

Research Plans and Methods

Sample. A survey was administered in two Western Canadian cities, Winnipeg (Manitoba) and Edmonton (Alberta), to an area sample of 500 consumers. Areas were selected so as to give a broad range of subjects, representative of a variety of demographic, socio-economic and life-style groups but also representative of the population of interest, that is purchasers of selected household textile products. Fishbein and Coombs [11] and Ellison, Ellison and Everett [9] used similar approaches with satisfactory results. Within each area homes were systematically approached and occupants asked to participate. A total of 53 percent of homes approached were in the final sample of 486. The remainder were either not at home or did not wish to participate. Of those at home, 70 percent agreed to participate. A questionnaire was then given to them and collected following completion.

Questionnaire. The focus of the sample survey was purchasing upholstered furniture. A questionnaire was developed, which operationalized the components of the model according to procedures described by Ajzen and Fishbein [1], and incorporated additional external variables which might elucidate the relationships among components and which were needed to describe the sample. These included demographic and socio-economic data plus information on smoking behavior and experience with household fires and fire injuries. Items for the questionnaire were developed from the results of the authors' earlier research.

Measuring behavior presented special problems. In studies of brand choice the product is typically a frequently purchased non-durable item such as soft drinks, groceries, shampoo, etc. Thus, the researcher can measure attitudes and behavioral intentions and follow up a week or two later with a measure of behavior. With a higher-priced consumer durable like upholstered furniture, a longer time period must be allowed, as few if any consumers are likely to buy furniture within a few weeks of completing the questionnaire. Even allowing a reasonable length of time, there will probably be many consumers who do not make an upholstered furniture purchase at all.

Consequently, the present research measured only behavioral intentions to purchase fire resistant upholstered furniture rather than alternative products without this property. A follow up study will track actual purchases among the respondents.

Attitude in this study (A_{act}) was attitude toward purchasing fire resistant upholstered furniture. Cognitive structure, the determinant of attitude, was the sum of the product of beliefs in the consequences of performing the behavior of interest (B_i) and the consumer's evaluation of those consequences (E_i). Six salient product attributes, identified in earlier research [6] were included in the belief statements and are shown in Table 1.

TABLE 1

Cognitive Structure and Attitude Components

B_i - beliefs about outcomes of buying fire resistant upholstered furniture from likely (+3) to unlikely (-3).

	Mean	Std. Dev.
It will cost more	1.67	1.18
It will decrease the risk of household fires	1.45	1.41
I may have a poorer selection of products	-0.87	1.62
I would increase my family's safety	1.72	1.27
It will be more difficult to clean	0.01	1.49
There would be some decrease in durability	0.54	1.45

E_i - evaluation of consequences of outcomes from good (+3) to bad (-3)

	Mean	Std. Dev.
Paying more	1.32	1.73
Reducing fire risk	2.69	0.74
Having wide selection	1.98	0.99
Ensuring family's safety	2.86	0.45
Ease of cleaning	1.55	1.43
Durability	2.70	0.64

	Mean	Std. Dev.
$\Sigma E_i B_i$ - summated measure of cognitive structure (+54 to -54)	11.20	11.46

A_{act} - attitude toward the behavior "Buying fire resistant upholstered furniture for my home would be:"

	Mean	Std. Dev.
1 sensible /foolish (+3 to -3)	2.57	0.83
2 necessary/unnecessary	1.71	1.39
3 beneficial/harmful	2.30	1.05
4 a good idea/a bad idea	2.37	1.08
5 important/unimportant	2.04	1.41
Summation (+15 to -15)	10.07	5.22
Average (+3 to -3)	2.21	1.06

Subjective norm (SN) was the individual's perception that important referents would want the individual to behave in a certain way. Normative structure, the determinant of subjective norm, was the sum of the product of normative beliefs that referents think the individual should perform the behavior (NB_j) and motivation to comply with those normative influences (MC_j). Appropriate referents, identified by Horne and Crown [12], are shown in Table 2.

The variables were measured on 7-point scales. All were bipolar scales, scored from +3 to -3, with the exception of MC_j which was treated as a unipolar scale as recommended by Ajzen and Fishbein [1, p. 263].

TABLE 2

Normative Structure and Subjective Norm Components

NB - normative beliefs about likelihood of 6 referent groups wanting the respondent to buy fire resistant upholstered furniture from likely (+3) to unlikely (-3)

	Mean	Std. Dev.
Government agencies	1.77	1.28
Consumer groups	1.74	1.23
Spouse	1.12	1.59
Family	0.92	1.57
Store salesperson	0.67	1.59
Friends	0.05	1.68

MC_j - motivation to comply with wishes of 6 referent groups from likely (7) to unlikely (1)

	Mean	Std. Dev.
Spouse	5.54	1.37
Consumer groups	5.26	1.42
Family	4.73	1.52
Government agencies	4.38	1.71
Store salesperson	4.13	1.56
Friends	3.82	1.69

	Mean	Std. Dev.
$\Sigma NB_j MC_j$ - summated measure of normative structure (+126 to -126)	32.85	32.38

SN - subjective norm - likelihood that "most people who are important to me would want me to buy fire resistant upholstered furniture" from likely (+3) to unlikely (-3)

Mean	Std. Dev.
1.13	1.52

RESULTS AND DISCUSSION

Profile of Respondents

Of the 486 usable responses, 64 percent were from women and 36 percent from men. The majority, 85 percent, were married. Age ranged from 18 to 82 with a mean of 35 (σ=±11.12). Fifty-three percent were employed full-time and a wide variety of occupations were represented, ranging from unskilled manual laborers to professionals. Modal categories were skilled trades occupations and skilled clerical workers. The modal income category was $34,000-39,999. Forty-two percent of the sample had at least one smoker in their household. The families of 13 percent of respondents had experienced an accident with fire. Seventeen percent of respondents had had relatives or good friends injured by fire.

Components of the Fishbein-Ajzen Model

Cognitive structure and attitudes. The components of cognitive structure, B_i and E_i, are shown in Table 1. Mean responses to beliefs about the outcomes of buying fire resistant upholstered furniture showed that respondents felt it was quite likely that this would increase their family's safety and decrease the risk of household fires. It is clear they also felt that a fire resistant product was quite likely to cost more than one which was not. The neutral mean response to the question on ease of cleaning and only slightly positive response to the durability question may indicate that consumers felt fire resistance would have little impact on these factors or, more probably, that they lacked the information necessary to make such a judgment. The slightly negative response to the question about selection also indicates that consumers felt fire resistance would have little effect, although it is interesting that this was the only response that was on the unlikely side of the bi-polar scale.

Mean responses to the evaluations of the various outcomes showed very positive feelings about ensuring family safety and reducing fire risk. While this is not surprising, given that these are "motherhood" statements, it was important to confirm the assumption that people do feel this way, to determine whether these "motherhood" evaluations do influence behavioral intentions and if not, what variables intervene.

Very positive evaluations were also given to having durable furniture. Earlier work has shown that durability is a product attribute that consumers consider very important and may be unwilling to trade-off for other attributes like fire resistance [7].

Quite positive evaluations were given to having a wide selection of products to choose from and having furniture which is easy to clean.

The response to "paying more for upholstered furniture which is fire resistant" was only slightly positive. This question was worded this way to be relevant to the study. In retrospect perhaps it should have focussed on cost alone but evaluation of cost is a difficult measure in any event, given the consumer's tendency to equate cost with quality. The measure as is suggests respondents would be slightly willing to make a trade-off and pay more for fire resistance.

Overall, the summated measure of cognitive structure, $\Sigma E_i B_i$, was positive but somewhat weak. There was, however, considerable variability in responses, with a considerable number at or close to neutral on some of the bi-polar belief and evaluation scales which reduced the overall mean. As suggested earlier, these positions may reflect a lack of knowledge.

The measure of attitude comprised five bipolar scales, (see Table 1), with a total possible score range of -15 to +15. The mean response of 10.07 shows that respondents had quite positive feelings about buying fire resistant upholstered furniture. This summative index is recommended by Fishbein and Ajzen [10]. A total of 87 percent of respondents completed all five scales. However, some respondents completed only one of the five scales and several respondents completed only some of the five. To allow for this an index, adjusted for the number of scales completed, was calculated. The mean of this index equalled 2.2, on a scale ranging from +3 to -3. This was slightly more positive than the summated measure.

Normative structure and subjective norm. The components of normative structure, NB_j and MC_j, are shown in Table 2. Mean responses to normative beliefs about the likelihood of each of six referent groups wanting the respondent to buy fire resistant upholstered furniture are given in the table. They show that respondents believe that government agencies and consumer groups are the most likely referents who would want fire resistant purchases. The respondent's spouse was only slightly likely to want this while family and store salespeople were rated slightly lower still. A neutral response was obtained for friends.

These results are interesting. They suggest that consumers recognize a broad societal pressure from government and consumer groups to purchase this type of product but that they do not feel any strong pressure from more immediate referents. While consumers appear to know what is good in general, perhaps they do not feel that this necessarily applies to them possibly because they are careful or do not smoke.

The mean responses to motivation to comply show that there was quite a strong likelihood of compliance with the wishes of the respondent's spouse and, more surprisingly, of consumer groups. This likelihood was less for family and markedly less for government agencies and salespeople. Both these referents were rated only slightly above the midpoint of the likelihood to comply scale, while friends were rated slightly below the midpoint.

Overall, the summated measure of normative structure, $\Sigma NB_j MC_j$, was positive but somewhat weak. Like the summated measure of cognitive structure, there was considerable variability in responses to the component bi-polar scales which warrants further investigation.

The measure of subjective norm was a single bipolar scale with a range of +3 to -3 as recommended by Fishbein and Ajzen [10]. The mean response of 1.13 suggests that respondents felt it only slightly likely that most people who are important to them would want them to buy fire resistant upholstered furniture.

Behavioral intention. The mean response to the question "Next time I buy upholstered furniture, I shall buy a fire resistant product" was 1.72 (σ = ±1.27) on a scale from likely (+3) to unlikely (-3), with 83 percent of respondents on the positive end of the scale. That is, behavioral intention was positive and moderately strong.

Correlations among model components

The correlation between attitude (A_{act}) and the summation of cognitive structure $\Sigma E_i B_i$ was positive and significant but somewhat weak (r=0.35, p=0.01). This, and the problems noted above in scoring A_{act}, suggest the need for refinement of the attitude and the cognitive structure measures. The correlations between attitude and behavioral intention (r=0.48,

$p<0.01$) and between cognitive structure and behavioral intention ($r=0.49$, $p<0.01$) were both positive, significant and relatively strong.

There was a strong and significant positive correlation between the measure of subjective norm SN and normative structure ΣNB_iMC_i ($r=0.72$, $p<0.01$). The correlation between subjective norm and behavioral intention ($r=0.53$, $p<0.01$) and between normative structure and behavioral intention ($r=0.58$, $p<0.01$) were both positive, significant and moderately strong.

Effect of Consumer Characteristics

It was of interest to determine whether there were differences in responses to the variables in the Fishbein-Ajzen model among respondents who differed on other variables. T-tests of means of smokers versus non-smokers in the sample showed significant differences between the two in attitude toward the behavior, subjective norm, behavioral intention and cognitive structure (Table 3). Smokers had more positive overall mean responses for all these variables.

TABLE 3

Differences in Measures between Households with and without Smokers

	Non Smokers Mean	Smokers Mean	Signif. of t
Attitude	9.68	10.60	0.05
Subjective norm	0.99	1.31	0.02
Behavioral intention	1.62	1.87	0.03
Cognitive structure	10.12	12.67	0.02
Normative structure	30.57	35.95	0.07

Respondents also reported whether their families had ever experienced an accident with fire. No differences in any of the measured variables were found between those families which had experienced an accident and those which had not. However, there was a significant difference ($p=0.02$) in mean attitude scores (A_{act}) of those who reported having close friends or relatives who had been injured in fires ($\bar{x} = 11.34$) and those who had not ($\bar{x} = 9.87$).

Some differences were found among respondents with different demographic and socio-economic characteristics. No significant differences were found between responses of male and female respondents. Those with children at home had a significantly lower mean score ($p=0.04$) on cognitive structure than those without children. This is difficult to explain. Children in a household may be regarded as a group at higher risk in the event of a fire and parents thus likely to have a more positive evaluation of safety in furniture choice. It may be, however, that other factors become more important. This apparent difference may also be an artifact of the combined measure which includes reference to other important attributes such as durability. Attitude to buying fire resistant upholstered furniture was somewhat more positive for those respondents with children ($\bar{x} = 10.49$) than those without ($\bar{x} = 9.75$), although the difference was not significant.

Those who had purchased furniture within the past 12 months had a significantly higher ($p=0.01$) mean score on cognitive structure, 12.66 compared to 9.9 for those who had not made a purchase. Although very few of these purchases were of fire resistant products, it may be that just the recency of the purchase had made those consumers more aware of the importance of various product attributes, resulting in higher scores.

Correlations between components of the model and age, years of schooling and income showed a number of significant relationships but all were notably weak (Table 4).

TABLE 4

Correlations of Model Components with Age, Years of Schooling and Income

	Behavioral Intention	Attitude	Subjective norm	Cognitive structure	Normative structure
Age (r)	0.05	-0.07	0.08	0.11*	0.04
Years of Schooling (r)	-0.14**	-0.04	-0.15**	-0.09	-0.08
Income (rho)	-0.12**	0.02	-0.10*	-0.04	-0.11*

*$p<0.05$; **$p<0.01$

Analysis of variance was used to assess the effect of occupation and education level on the model components. No significant differences were found among occupational groups in attitudes, beliefs and behavioral intentions. Some significant differences were found among those with high school, some post-secondary, and university educations (Table 5). Those with university educations tended to score lower on all the model components than one or both of the other two groups. Possibly those with university educations believed themselves to be more knowledgeable about textile product safety and were, therefore, less likely to pay attention to referents. It is not clear, however, what might explain their lower cognitive structure scores. These differences are also reflected in a lower value on the behavioral intentions scale.

TABLE 5

ANOVA of Effect of Education and Occupation on Model Components

F Values

	Behavioral Intention	Attitude	Subjective norm	Cognitive structure	Normative structure
Occupation	1.85	0.70	1.40	0.92	0.40
Education	8.58**	4.91**	7.95**	3.62*	3.06*

*$p<0.05$; **$p<0.01$

CONCLUSION

The results of this study contribute to our understanding of the beliefs and attitudes consumers hold about fire resistant products. Consumers express positive attitudes towards purchasing safe products and reducing fire risk and express moderately strong intentions to do so but they are generally less sure in their beliefs about the outcomes of buying fire resistant upholstered furniture. Several of the scales have fairly high standard deviations and further examination of frequency distributions shows that there is substantial variability in responses, particularly among beliefs about outcomes. It seems probable that many consumers are uncertain about possible outcomes, particularly the effect of fire resistant properties on other product attributes, notably durability and ease of cleaning. From the direct measure of attitude it also emerges that while consumers generally see buying fire resistant furniture as very sensible, overall they are less positive about the importance or necessity of doing so. These results help to explain previous equivocal findings. In several studies, consumers have shown positive attitudes toward purchasing fire resistant products. However, where these studies included measures of actual or simulated choice consumers did not pay much attention to the issue of fire resistance and tended not to choose the safer product voluntarily.

The study also throws light on the referents which consumers use and the likelihood of them following referent advice. Among referents, the most remote referents, consumer groups and government agencies, were seen as most likely to want the consumer to make a particular decision, while more intimate referents like spouse and family were judged much less likely to want this choice. Surprisingly, friends were judged as not influencing the consumer decision either way. It also seems that, with respect to the fire resistance issue, store salespersons were rated only slightly greater than neutral sources of influence.

These findings support in some measure the "motherhood" nature of safety issues like fire resistance. Consumers are aware that fire resistance is an issue and that it is one which is of importance at a societal level, but they do not see it in very personal terms. Hence the lower scores for more immediate referents, and only a weakly positive score on the direct measure of subjective norm. Ellison, Ellison and Everett [9] also reported an increase in normative belief from friends, to media to government, in a study of behavioral intention toward energy conservation. This may also be a "motherhood" issue, or perhaps one for which participants give concessionary responses.

Referents can be divided into two groups, personal and non-personal, when examining normative beliefs and motivation to comply. Among personal associates (spouse, family, friends) the power to elicit compliance increases with the intimacy of the relationship. Experts (consumer groups) are rated most highly among non-personal referents, those with a vested interest (sales people) rate lowest, with government agencies in between. Within both personal and non-personal groupings the results are in accord with those of Bowman and Fishbein [3]. The overall pattern between groups is also similar, that is the most intimate personal associates and experts rated highly while friends and those with a vested interest rated lowest.

The combination of high scores for normative beliefs and motivation to comply for consumer groups suggests that they are perceived as concerned about safety and have the confidence of consumers. The results indicate that such groups may be very important in influencing consumer decisions about these products, because they are viewed as impartial and disinterested. Interestingly, government agencies are perceived as concerned (highly rated on normative beliefs) but consumers appear less confident about complying with government advice. Spouses and family, while important to consumers, appear not to be considered very interested in or knowledgeable about the issue under consideration.

Quite strong behavioral intentions were expressed by respondents, yet both the previous behavior of respondents in this study and behavior measured in other studies suggests that, in fact, consumers do not pay much attention to the issue of fire resistance. A major reason for this well worth exploring further is the apparent belief that "it will never happen to me" [6]. One way of elucidating this further will be to do more analysis comparing responses of smokers and non-smokers. Results of the analysis so far suggest that this variable may be discriminatory. In follow-up research a measure of behavior will be derived and the Fishbein-Ajzen model will be tested to see whether in fact positive attitudes and behavioral intentions are reflected in purchases.

The findings of this study have implications for public policy. They identify some of the referent influences but also show that voluntary compliance with government's recommendations may not be that likely. This suggests consideration of making programs of flammability testing and labelling mandatory. Where voluntary programs are adopted, such as in Canada and the USA, consumer education may also be warranted to increase the knowledge of consumers about flammability hazards. Specifically, educators have a role to play in convincing consumers that fire safety is an important issue, and that no one is immune from the hazard of fire in the home. Consumers could be educated about reducing this hazard by purchasing fire resistant upholstered furniture products and about the effect, or lack of effect, fire resistance will have on other product attributes like ease of cleaning, durability and cost. In this way, consumers will see the benefits to them of purchasing flame resistant products and the likelihood of misconceptions will be reduced, with positive effects for behavioral intentions and purchases. The results of this research suggest the role consumer groups can play in fostering a safer home environment is worthy of further investigation.

REFERENCES

1. Ajzen, I., and Fishbein, M. *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs, NJ: Prentice Hall, 1980.

2. Bearden, W.O., and Woodside, A.G., "Situational and extended attitude models as predictors of marijuana intentions and reported behavior." *Journal of Social Psychology* 106 (1978):57-67.

3. Bowman, C., and Fishbein, M. "Understanding Public Reactions to Energy Proposals: An Application of the Fishbein Model." *Journal of Applied Social Psychology* 8 (1978):319-40.

4. Brown, S.A., and Crown, E.M. "Consumer Attitudes to Flammability in Household Textiles." *Home Economics Research Journal* 13 (1985):373-382.

5. Burnett, S.B. "Assessing the impact of increased product safety on consumer utility." In *Advances in Consumer Research*, ed. H.K. Hunt, Vol. 5. Ann Arbor, MI: Association for Consumer Research, 1978.

6. Crown, E.M., and Brown, S.A. "Flame retardance as a criterion in textile product evaluation: a conjoint analysis approach." *Journal of Consumer Product Flammability* 8 (1981):221-234.

7. Crown, E.M., and Brown, S.A. *Upholstered furniture: Effect of consumer information and education on cognition and choice*. Ottawa, ON: Consumer and Corporate Affairs, Canada, 1983.

8. Crown, E.M., and Brown, S.A. "Consumer Trade-offs among Flame Retardance and Other Product Attributes: A Conjoint Analysis of Consumer Preferences." *Journal of Consumer Affairs* 18 (1984):305-316.

9. Ellison, R.A., Ellison, M., and Everett, G.E. "Longitudinal Research Utilizing Ajzen's and Fishbein's Theory of Reasoned Action: Enercan Pilot Study." In *Marketing*, ed. J.D. FOrbes, Vol. 4. Vancouver, BC: Administrative Sciences Association of Canada, 1983.

10. Fishbein, M., and Ajzen, I. *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley, 1975.

11. Fishbein, M., and Coombs, F.S. "Basis for decision: An attitudinal analysis of voting behavior." *Journal of Applied Social Psychology* 4 (1974):95-124.

12. Horne, L., and Crown, E.M. "Use of Information Sources in the Purchase of Home Furnishing Textile Products." *Canadian Home Economics Journal* 33 (1983):227-232.

13. Laughlin, K.C. "Consumer acceptance of FR sleepwear." *Textile Chemist and Colorist* 8 (1976):51-55.

14. Laughlin, K.C., and Buddin, F. "Consumer acceptance of FR sleepwear: part II." *Textile Chemist and Colorist* 9 (1977): 218-222.

15. Miniard, P.W., and Cohen, J.B. "Isolating attitudinal and normative influences in behavioral intentions models." *Journal of Marketing Research* 16 (1979):102-110.

16. Miniard, P.W., and Cohen, J.B. "An Examination of the Fishbein-Ajzen Behavioral Intentions Model's Concepts and Measures." *Journal of Experimental Social Psychology* 17 (1981):309-339.

17. Oliver, R.L., and Bearden, W.O. "Crossover Effects in the Theory of Reasoned Action: A Moderating Influence Attempt." *Journal of Consumer Research* 12 (1985):324-340.

18. Rucker, M.H., McGee, K.M., Hughes, R.K., Gorang, M.L., O'Reilly, L.M., and Damant, G. "Consumer Research on Furniture Flammability." *Journal of Consumer Product Flammability* 7 (1980): 151-160.

19. Ryan, M.J., and Bonfield, E.H. "Fishbein's Intentions Model: A Test of External and Pragmatic Validity." *Journal of Marketing* 44 (1980):82-95.

20. Wall, M., and Gallagher, J.E. "Consumer Attitudes toward Children's Flame-retardant Sleepwear." *Canadian Home Economics Journal* 33 (1983):21-26.

21. Wilson, D.T., Mathews, H.L., and Harvey, J.W. "An Empirical Test of the Fishbein Behavioral Intention Model." *Journal of Consumer Research* 1 (1975):39-48.

22. Zanna, M.P., Higgins, E.T., and Herman, C.P. *Consistency in Social Behavior*. The Ontario Symposium, Vol. 2. Hillsdale, NJ: Lawrence Erlbaum Associates, 1982.

CONSUMER SAFETY ISSUES

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The two papers in this session, Kramer and Penner [1987] and Brown, et al. [1987] make excellent contributions to the consumer safety literature. The Kramer and Penner paper reports new analyses of the Kansas Consumer Survey. The Brown, et al. paper is part of continuing series of research studies on consumers and fire resistant products. In a variety of ways these papers serve to highlight some of the important policy characteristics of consumer safety issues. Some of these characteristics are briefly discussed below.

First, consumer safety policy questions are debated against a political backdrop in which the major players are industries that by and large 1) do not really believe that consumer safety is a problem with regard to their products, 2) do not believe consumers believe safety is a problem, 3) want to retain control over the marketplace, especially control over the nature of products, and 4) have virtual veto power over changes in safety policy [Feldman 1980].

Second, there is unnecessary confusion and inconsistency in the consumer safety literature over uses of the terms "safety" and health." Occasionally these terms may legitmately be used interchangeably. Often, however, to do so may be misleading or cause confusion. One way to clarify usage of these terms is to reserve the term "safety" for short-term, "clear and present danger of injury or death" situations. The term "health" could then be reserved for situations having longer-term consequences for consumer well-being. Were such a system being followed, Kramer and Penner [1987] would not have had to reproduce FDA's "food safety hazards" list which ranks malnutrition as the Number 2 safety hazard (it would be better characterized as a health problem). Later in the same paper, "too much fat" is a response stub reported as a reason for consumer non-purchase of meat products---a health, not a safety issue.

Third, safety is becoming increasingly salient in consumer decision making across a wider range of products. For example, greater numbers of consumers are questioning the safety of a greater number of products in the U.S. food supply. This becomes relevant for policy, especially information provision policy, given what we know about the ways in which consumer information processing differs for products perceived as risky vs. benign [e.g., Bettman, et al., 1986].

The fourth characteristic of the consumer safety arena has to do with the information environment. There is simultaneously too much and too little information available to consumers on the safety of many products. Too much information is a problem when two sides in a consumer safety controversy both have "scientific" or other evidence and both are expending resources to make that information available to consumers. Too little information occurs most frequently when the product or the safety issue, for whatever reason, fails to capture the attention of the news media.

Fifth, there are at least three major ways in which policy makers can respond to the risk associated with product choice and use [Mande, 1987]. The first is to allow the free market to operate entirely unencumbered by government regulation. Sellers would have total freedom to offer for sale any product, regardless of the risk it poses to the safety and health of consumers. Consumers would have total freedom to choose, within their own economic constraints, from among the available pool of products. The second option is for government to provide or mandate the provision of information regarding the safety characteristics and degree of risk involved in purchase and use of the product. Consumers in this scenario would be able to make informed choices in the marketplace. The third policy option is for government to control the extent of risk that consumers face in the marketplace. This process may occur through the promulgation of product safety standards, inspection procedures, and information campaigns.

Clearly at any given time all three of these policy options are in operation in the marketplace. The contrast between the policy responses to the product categories discussed in these two papers is a case in point. While consumers in the Kansas Consumer Survey expressed substantial concern about the degree of risk in the food supply, respondents in the Brown, et al. survey approach the risk of an upholstery fire with considerable equanimity. The conditions under which consumer safety issuses change from "motherhood" issues into front-burner policy issues is ripe for study. These two papers give us some clues about where to look for some answers.

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REFERENCES

Bettman, James R., Payne, John W., and Staelin, Richard. "Cognitive Considerations in Assigning Effective Labels for Presenting Risk Information," **Journal of Public Policy & Marketing**, 5:1-28, 1986.

Brown, S. A., Crown, E. M, and Marshall, S. P. "Consumer Beliefs About, Attitudes Towards Intentions to Purchase Fire Resistant Products," **The Annual Conference of the American Council in Consumer Interests**, edited by Vickie Hampton, 1987.

Feldman, Laurence P. **Consumer Protection: Problems and Prospects**, 2nd edition, West Publishing Co.: St. Paul, MN., 1980.

Kramer, Carol S. and Penner, Karen P. "Food Safety Information and Regulation: Are These Substitutes or Complements?" **Proceedings of the Annual Conference of the American Council on Consumer Interests**, edited by Vickie Hampton, 1987.

Mande, Jerold, "Issues for the Next Decade," paper presented at the 10th Annual National Food Policy Conference, Washington, DC, 1987.

THE ROLE OF PUBLIC INTEREST GROUPS IN SETTING THE PUBLIC AGENDA FOR THE '90's

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ABSTRACT

Mature public interest lobbying acts have come to play a significant part in affecting the outcomes of important legislative fights. The public interest lobbyist's raw material is the unfocused energy of the public will. To succeed, the lobbyist must focus and unleash that energy so that it will move legislative mountains. In reviewing five recent public interest victories, we see that the lobbyists must manifest balance in two critical strategic principles: (1) the seizing of the middle ground and (2) timely compromises.

Today, the challenge facing the nation's public interest lobbies is to channel the country's political energy and give it coherent policy direction. They must also recognize their common state in pursuing two over-arching needs that will determine the future integrity of our government and its responsiveness to national needs. First they must abandon the sterility of a Gramm-Rudman-Hollings approach to the federal budget. They must also make fundamental campaign financing reform a top priority.

In the cold light of the morning after the 1980 elections, who among those who saw themselves as members of the public interest community did not awake with dread? Arms control activists despaired of restraining the uncontrolled growth of the nuclear arsenal. Civil rights workers saw undermined that fragile legal scaffolding which they had painstakingly erected over two decades. And consumer, environment, and public health advocates foresaw the transformation of regulatory regimens -- bulwarks against corporate greed -- into facilitating hand-maidens of that greed. And so it happened -- or at least began to happen.

With all the subtlety of a Chicago mayor clearing the snowbound streets in an election year, the Reagan Administration set about plowing up - regulatory restraints and redistributing the treasury's wealth from alms to arms.

Much that was dreaded came to pass, but not all. Indeed, on some of the most vulnerable fronts, public interest groups staved off impending doom, and, in a handful of cases, gained significant victories which defied their own baleful predictions. Two years ago, I set out to study some of these cases to see if I could learn some lessons about the resiliency of citizen groups in what should have been the worst of times. In doing, I chose five citizen triumphs over what appeared to be insurmountable odds, each one of which represented a major public interest arena: public health, civil rights, the environment, arms control, and consumer justice.

The first case study was the passage of the Cigarette Labeling Act of 1984 requiring a new series of four deadly warnings to rotate on cigarette labels and in all cigarette advertising, in which the mythic tobacco lobby was defeated for the first time.

Next came the defeat of the American Medical Association's strenuous effort to escape consumer protection and antitrust regulation, in which the doctors' torrent of campaign contributions brought the AMA only shame.

Third was the preservation by Congress of the Tuolumne Wild River in California, snatched from the clutches of the dam builders and real estate developers.

Fourth, the overwhelming victory, in 1982, for a Voting Rights Act stronger than any of its advocates dared to hope for.

Finally, the containment of the MX missile system in 1984.

What happened?

In each case, of course, large forces were, of course, afoot. Movements, or at least broad, popular impulses, loom behind each of these victories. As the issues were ultimately cast, the outcomes, in each case, truly reflected the will of the majority -- as reflected in opinion polls, if not election polls.
There were also, in each case, uncommonly dedicated and effective leaders within Congress -- in the ranks of both its members and their staffs.

There were sympathetic, or at least responsive, media voices. There were, at least in the tobacco and AMA cases, important supportive advocates within the administration.

There were, "on the outside" of the Congress, broad citizen group and affected interest group coalitions -- commonly slow-forming, hesitant; thinly staffed and funded; distracted by other urgent battles -- but ultimately a coherent force.

And, at the core of each of these coalitions was a small group of professional lobbyists -- veterans of legislative campaigns stretching back over many seasons, and including diverse causes within a broad spectrum of policy arenas.

Still, it wasn't supposed to happen.

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Among political scientists, even the most nonchalant pluralist now views with discomfort, if not despair, the disproportionate influence of the organized special interest set against the diffuse, undifferentiated and unorganized general interest. That is why the political scientist greets with surprise even modest public interest triumphs.

In *The Politics of Regulation,* James Q. Wilson airs this puzzle as it applies to the outpouring of consumer and environmental laws in the late sixties and early seventies:

> "A policy may be proposed that will convey general (though perhaps small) benefits at a cost to be born chiefly by a small segment of society....Since the incentive to organize is strong for opponents of the policy but weak for the beneficiaries, and since the political system provides many points at which opposition can be registered, it may seem astonishing that regulatory legislation of this sort is ever passed."

That it *does* happen, Wilson attributes to *entrepreneurial politics*, which require:

> "The efforts of a skilled entrepreneur who can mobilize latent public sentiment (by revealing a scandal or capitalizing on a crisis), put the opponents of the plan publicly on the defensive (by accusing them of deforming babies or killing motorists), and associate the legislation with widely shared values (clean air, pure water, health and safety). The entrepreneur serves as the vicarious representative of groups not directly part of the legislative process."

Perhaps such entrepreneurs as Ralph Nader could succeed in the 1960's and 70's simply by triggering public animus through the press. For organized economic interest groups lacked the political commitment, the political leverage of massed political action committee dollars and the benefit of a de-regulatory political environment. But, in both Congress and the Reagan Administration, today's public interest entrepreneurs face stonier walls. Concerned citizens Quickly learned that they could no longer "let Ralph do it." Citizens broadly affected cannot remain aloof from the legislative process, and the public interest entrepreneur's enterprise must be backed by an organized, not "vicarious," constituency.

Amid the clamor of competing outrages, the threshold of spontaneous public indignation continually rises. The entrepreneur's media skills may still be valuable in evoking public outrage on those issues that lend themselves to dramatic media "bytes." But it is not enough. "The hard fights," as former Common Cause President David Cohen insists, are "not for the short-winded." And these case studies suggest that mature public interest lobbying arts have come to play a significant part in affecting the outcomes of such "hard fights."

How can we best capture the essence of the citizen lobbying arts? Not surprisingly, the ancient Chinese martial arts suggest a framework for characterizing key, recurring elements in the successful public interest lobbying campaign. Of particular relevance are the central concepts relating to the marshalling, transforming, and focusing of energy, (T'ai C'hi) and the importance of moderation and balance, the avoidance of excessive aggressiveness (Yang), or yielding (Yin).

The public interest lobbyist's raw material is the unfocused energy of the public will. To succeed, the lobbyist must focus and unleash that energy so that it will move legislative mountains. It is not surprising that the lobbyists' roles can best be described generically in terms of energy. In providing support and encouragement for their Congressional leaders they nurture energy. In coalition building, they harness energy. In shaping legislative strategies, they focus energy. In directing the focus of organized grass roots constituencies toward the appropriate target legislators at the right time and in the right way, they unleash energy. In the face of frustration and defeat, they sustain energy.

Common Cause played the leading role in the defeat of the MX missile. Common Cause founder John Gardner's evocation of Common Cause's "operating philosophy" is framed in terms of the focusing of energy:

> "In Common Cause we guard against aimless dissipation of energy by a simple operating philosophy: with rare exceptions we do nothing but fight specific battles -- legal or legislative. We enter each battle seeking a specific outcome. And we stay with it until we win or lose.
>
> We do not engage in educational campaigns for their own sake, nor research for its own sake (though we use the research of others). Nor do we make pronouncements or engage in debate on any issue unless we intend to fight that issue through to a conclusion.
>
> That operating philosophy has forced us to focus our energies and resources on specific targets. It has spared us the vague and intangible efforts to "do good" that absorb so much of the energies of well-intentioned organizations."

This energy focus was central to each of the campaigns I studied. In building and sustaining the "intensity" of the anti-MX campaign, year after year, vote after vote; in maintaining the morale of the health lobby through months of slippery negotiations with the tobacco lobby; in hanging in against the American Medical Association though defeat appeared inevitable; in mobilizing a new campaign to save the Tuolumne on the wreckage of a succession of failed wild river campaigns; and in behaving as if a cresting new administration could be overcome to strengthen the Voting Rights Act, the public interest lobbyists serves as energy conservers and mobilizers.

The transformation of energy also serves as an apt metaphor for the public interest lobbyists' treatment of powerful adversaries -- the great corporate lobbies, trade Associations, and government bureaucracies:

Very large animals have certain advantages in confronting very small or weak prey. But big is not always best. Brainpower tends to lag behind musclepower. Agility and flexibility suffer. Momentum can be awe-inspiring, but only so long as it is headed in the desired direction.

A very large lobby directed by a diverse assortment of imperfectly synchronized brains, which are capable of converging only upon the one course of conduct which has proved successful in the past, is in trouble. If its behavior is also marked by the habit of duplicity; if its intelligence-gathering apparatus is distorted by grandiose delusions; if it is both overly confident and overly fearful; if it is equally prone to alienate friend and adversary alike, it is in trouble.

And, if it is opposed by a lean and light-fingered lobby, flexible, resourceful, trustworthy, reasonable, good-humored, and principled -- it may very well lose.

Even the novice martial arts student learns that the essence of combat is to turn the aggressive energy of the charging adversary (Yang) to advantage, through yielding, deflecting and redirecting that energy (Yin). Those who lack experience in lobbying campaigns are easily intimidated by the apparent power and resources of their adversaries. The mature lobbyist sees both power and vulnerability, and takes advantage of the musclebound giantism of the adversaries to transform and redirect excessive aggression back upon its source.

Thus the anti-MX lobbyists make use of the massive, taxpayer funded lobbying efforts of the Pentagon and defense contractors to rouse public sentiment against the military-industrial complex's gargantuan, waste-making greed! The Health Coalition's lobbyists, by counseling patience and flexibility in negotiation, give the tobacco lobby ample opportunity to display its arrogance and contempt for Congress, qualities which alienate even its most dedicated allies. The Congress Watch lobbyist transforms the AMA's lavish campaign contributions into an unshakable political albatross. The wild river lobbyists likewise succeed in turning the dam builders and water developers lobbying and campaign largess into an index of corruption. Finally, the martial arts practitioner himself avoids both excessive aggressiveness or excessive yielding, seeking balance, rootedness, flexibility. In each of the case studies, the lobbyists manifest balance in two common -- and critical -- strategic principles: (1) the seizing of the middle ground, the perceived moderate center; and (2) timely compromise.

In the MX campaign, the lobbyists argued strenuously against premature public abandonment of the goal of "no MX's," though construction of an initial 21 had been authorized by Congress the previous year. They well understood that Congress would not likely reverse that decision, but nonetheless insisted that the House be forced to vote on an amendment to do just that. They did so in order to posture the vote to deny funding for additional missiles as the middle ground. As the voting approached, each side constantly recast its strategy, maneuvering to be in position to offer, in the right sequence, the perceived middle ground.

In pursuing strengthened cigarette labels, the health lobbyists struggled to shed the image of Puritanism and zealotry which anti-smoking crusaders had sometimes invited. They restrained an increasingly restive constituency in remaining flexible and reasonable in seeking limited compromise -- all in the successful effort to cast the tobacco lobby as extreme and inflexible in its demands.

In the AMA case, FTC Chairman James Miller portrayed the AMA as seeking a status above the law as a privileged aristocracy, and Congress Watch lobbyist Jay Angoff's succeeded in attaching a "sold" sign to Congressmembers voting for the "AMA amendment." Thus the supporters of FTC authority over the professions progressively isolated the AMA's effort as on the venal fringe.

From its very choice of a name for its campaign, "the Tuolumne Preservation Trust," to its slogan, "Leave it as it is," the lobbying strategy for the Tuolumne sought to shed the image of wild river preservationists as elitist white river rafters against progress. Instead, they drew into their coalition family campgrounds and others who already used the rivers resources for water and power, and claimed the banner of balanced usage, while labeling those who would further dam and exploit the river as development-mad extremists.

In the Voting Rights Act campaign, the goal was not simple majorities of the Senate and House, but filibuster-proof and veto-proof consensus. The key lobbying strategists for the Leadership Conference on Civil Rights focused their strategy upon isolating the President and his civil rights policymakers from the conservative Republican mainstream. They made boisterous use, in this regard, of the administration's abortive effort to grant tax-exempt status to segregated, fundamentalist colleges, an effort almost universally condemned in Congress.

As the Samurai manual, the Book of Five Rings counsels, "The General knows when to march and when to halt."

Nothing is more taxing to a coalition than confronting the need for compromise. Nothing challenges the leadership -- and character -- of the lobbyist more than resisting the rush to compromise born of despair or frustration, or, worse, risking the opprobrium of the militant millenarians, by counseling that the time to compromise has come.

It is always tempting to preserve one's reputation for uncompromising purity, rather than to risk shunning as a "sell out." Even if the compromise should prove successful, and the legislation passes, no one will ever know for certain whether it was really necessary. Thus the author of compromise risks shunning by the rigidly unyielding.

Yet it was in the art of timely compromise that the public interest lobbies most showed their balance and flexibility.

The anti-MX lobbyists fiercely resisted premature abandonment of the goal of "no MX's." Yet, they maintained flexibility. Indeed, they embraced a militant slogan, "No MX's in 84," which was sufficiently ambiguous to permit them, when they -- and their Congressional leaders -- saw they could not muster the votes to halt production of the 21 MX missiles authorized in 1983, but not yet actually built, to shift to the lesser, but attainable goal of halting the authorization of additional missiles.

The leaders of the anti-AMA coalition, not without strain, accepted a last minute compromise offered by Senator Rudman which engraved in law the exclusive right of the states to set bona-fide licensing standards for professionals. This frustrated the unstated desire of some members of the anti-AMA coalition, such as the nurse-midwives, who hoped to spawn an FTC challenge to state-imposed restrictions (though the FTC had disavowed any such intent). But such a challenge would have given some legitimacy to the AMA partisans' arguments that the FTC was a threat to historic states' rights. By its surprise and clarity, the Rudman Amendment undermined the AMA's latent Senate support.

On the cigarette labeling bill, the Health Coalition's lobbyists strenuously resisted, at some risk, a weak compromise that their own Senate leader, Senator Hatch, was poised to embrace. But as time and the likelihood of passage waned, the coalition gave up one of the warnings it ardently sought: that smoking was addictive. However painful, it was the lobbyists' judgment that the compromise was essential.

Though the Voting Rights Act extension passed the House overwhelmingly, and though it enjoyed the support of a comfortable majority of the Senate, the Coalition's lobbyists still counseled negotiation of what proved to be an exceedingly modest compromise with Senator Dole of Kansas, not yet Republican Senate Leader, but a strong force among Senate Republicans. Dole's support was seen as necessary to isolate the hostile Reagan Administration and its veto potential. Once Dole had signed on, the administration reluctantly withdrew its veto threat.

Eric Fromm, in The Revolution of Hope (Harper & Row, 1968), cites "hope" as "a decisive element in any attempt to bring about social change." But in so doing, he first distinguishes active from both passive and millenarian hope:

> "While passive waiting is a disguised form of hopelessness and impotence, there is another form of hopelessness and despair which takes exactly the opposite disguise -- the disguise of phrase making and adventurism, of disregard for reality, and of forcing what cannot be forced."

David Cohen draws upon his two decades of hands-on lobbying experience to draw up a taxonomy of public interest lobbyists, strikingly parallel to Fromm's catagories of hope. Three types of lobbyist are amply represented within the public interest community, Cohen notes: the "apocalyptic, "the "bureaucratic," and "the movement."

The apocalyptic lobbyists, who most resemble Fromm's adventurists, lack neither energy nor the fires of conviction. But they prove poor -- and unwilling -- lobbyists. In the extreme, as Byron Kennard has observed,

> "People are attracted to social movements for a variety of reasons....Some people turn out to be motivated by deep wells of anger and bitterness. They wallow in disappointment and defeat. To these people, winning is unthinkable, even distasteful. They set up a self-fulfilling prophecy: to win is to sell out, that is, to lose."

Bureaucratic lobbyists are most often found in the larger, well established (and better funded) institutions. Though the lobbyists themselves may have been drawn to the organization by concern for its cause, the organizational culture soon wears down the edge of aggressive pursuit. The bureaucratic lobby is unwilling to risk, unwilling to challenge, unwilling to press its friends or tangle with its adversaries in the public arena. It is the most addicted to the illusionary compromise. In Fromm's terms, the bureaucratic lobby is mired in "passive waiting."

What is it, then, that characterizes active hope? And how does it relate to "movement" lobbying? Again Fromm is helpful:

> "Hope...is neither passive waiting nor is it unrealistic forcing of circumstances that cannot occur. It is like the crouched tiger, which will jump only when the moment for jumping has come. Neither tired reformism nor pseudo-radical adventurism is an expression of hope. To

> hope means to be ready at every moment for that which is not yet born, and yet not become desperate if there is no birth in our lifetime. There is no sense in hoping for that which already exists or for that which cannot be. Those whose hope is weak settle down for comfort or for violence; those whose hope is strong see and cherish all signs of new life and are ready every moment to help the birth of that which is ready to be born."

The "movement" lobbyist, observes David Cohen, is hopeful both to issues and people:

> "Movement lobbyists believe it is possible to push and make demands and bend the legislative/policy system. They are also optimistic about participation, because they believe in the good sense of people to be able to do things well. This contrasts with the bureaucratic style of lobbying which rarely shares its tasks with its members or volunteers."

It is not coincidence that leads Common Cause Chairman Archibald Cox to describe Common Cause's institutional culture in terms of hope:

> "Common Cause's national energies are principally harnessed towards effective effort throughout the country on issues which can be joined with hope of a specific outcome."

Fromm's "crouching tiger" is similarly evoked by Cox's deliberate embrace of the unflattering term "opportunistic" to characterize Common Cause's modus operandi.

Now, new opportunities stretch before us, spawned by the elections, by the unraveling of the Reagan Administration, and by the unmasking of the emptiness of the Reagan vision.

Opportunity lies in the Congress, not because of the inherent greatness of its leadership -- with some exceptions -- but because of another of the central lessons of public interest lobbying:

By and large, public interest lobbies don't convert or intimidate into submission their ideological or political adversaries. Their critical role is to transform sympathetic members of Congress into committed leaders and supporters. What they do best is motivate, energize, prod, support, and cheerlead those whose natural inclinations are to agree with them. And if there is one clear lesson the lobbies have learned, it is that strong, committed leadership within Congress is the key to winning.

Now there are many more sympathetic members -- and potential leaders for these causes -- in the Senate as well as the House. And they have the essential staff resources, the control over committee and floor agendas, and the consequent high profile access to media gatekeepers.

Next, what the 1986 Congressional elections began, the unraveling of the Reagan presidency has accelerated: the search for a new national agenda in the post-Reagan era.

The American people have the habit -- unsettling to those who happen to be in office -- of constantly looking ahead and demanding, "What's next?" That's the way it was the last time we saw a popular president near the end of a second term. In 1958, the democrats swept Congress. For the next two years, the issues stimulated by the advocacy of civil rights groups, organized labor, farmers and senior citizens lobbies set the framework for the 1960 presidential debate and influenced the early domestic actions of the Kennedy Administration. President Kennedy set out to get the country moving again. But he would not have seen the way so clearly if the movement lobbies of the fifties had not been banging on the doors of President Eisenhower's last congress, moving their issues on to the nations' agenda. Today, the challenge facing the nation's public interest lobbies is to channel the country's restless political energy and give it coherent policy direction --direction that the political parties have largely been unwilling, or unable, to set themselves.

The Democrats -- and progressive Republicans in Congress -- do have an opportunity to show they can govern, if they can respond to those constituencies that are looking ahead and are ready to face America's problems -- not narrow interest lobbies focussed inwardly on their own privileges and pocketbooks, but broad citizen movements. They must respond to those who would restore excellence and universal opportunity in education and housing, defend the environment, redeem civil rights and liberties, reverse the increase in poverty with a secure net for children and the elderly, and defuse nuclear terror. They must do so within an economic framework that draws upon the restless entrepreneurial energies of Americans without abdicating the search for equity and decency to the relentlessness of market forces. And they must frame a set of alternative actions -- government actions -- that the American people can embrace.

Public interest lobbies practice robust politics. They place demands on the political and legislative system. That is the stuff of the Constitutional right to petition the government to redress grievances. They are trying to make the political system bend.

House and Senate Democrats and Republicans alike will be tempted to follow their usual habit: say yes to their traditional interest group constituencies and avoid the responsibility of proposing a coherent program. This is where the public interest lobbies can play their agenda-setting role. None of us should be expected to give up our individual issues -- some will be embraced; others may fall by the wayside.

But the public interest lobbies cannot stop there. They must also recognize their common stake in pursuing two over-arching needs that will determine the future integrity of our government and its responsiveness to national needs:

First they must work to abandon the sterility of a Gramm-Rudman-Hollings approach: the mechanical budget guillotine. Instead, Congress must combine thoughtful budget restraint and progressive tax increases in a way that takes the deficit problem seriously, yet still leaves room for new policy initiatives to address the concerns of most Americans -- education, helping depressed regional economies recover, enabling low and middle income families starting out to gain access to affordable housing, and access to health care for those who are poor, near poor or unable to cope with catastrophe.

They must also make it a first priority to remove the suffocating blight of cash-on-the-barrelhead politics and move, instead to a system that limits overall campaign expenditures, limits what candidates can take from political action committees and family treasuries, and rewards small contributions with a matching public finance system. The consumer lobby may have beaten the AMA, but it didn't beat the auto dealers, who dealt campaign cash more efficiently than they ever deal autos, and a whole host of corporate and trade associations who are investing in Congress rather than research and development, management, worker retraining, or marketing abroad. Common sense tells us they invest in Congress because Congress pays off, not for love of democratic process, and that brings us to the final piece of good news: the time is ripe for fundamental campaign financing reform. The wind is up. Senators Robert Byrd and David Boren, with the strong support of Common Cause and a host of others, have introduced a comprehensive campaign finance reform bill, S.2. As of today, that bill has 36 cosponsors, and rising.

Let me tell you, this system is so rotten, there even is a new group in Washington, come together in common disgust: Lobbyists For Campaign Financing Reform. And they are serious: everybody touched by this system is demeaned, if not corrupted.

Ironically, public interest lobbies today owe much of their present strength and fitness to the Reagan Presidency. The early 1980's were the wilderness years. Losing allies in Congress and the administration, they were forced to strengthen their grass roots citizen networks, and develop organizational cultures that recognized and rewarded commitment for long term struggle. Those who survived were those who had learned that citizen advocacy was truly "not for the short winded."

Now, in 1987 and 1988, we can also reach beyond Reagan to help shape a new agenda for the nation in the 1990's. In 1959 and 1960, progressive Democrats and Republicans in Congress set the agenda for the 1960 election campaign and for the Kennedy Administration. They now have the opportunity to do so again, interring the exhausted Reagan agenda -- with a little help (and a big push) -- from the public interest lobbies.